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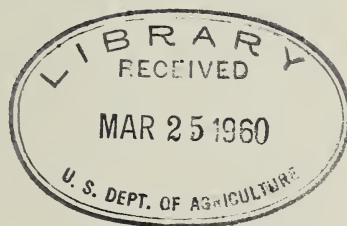
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THE DEVELOPMENT OF NATIVE AGRICULTURE AND LAND TENURE  
IN SOUTHERN RHODESIA //

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DEVELOPMENT OF NATIVE AGRICULTURE AND LAND TENURE IN  
SOUTHERN RHODESIA

by. E. D. Alvord, O.B.E., M.Sc.

In order to better comprehend and appreciate what has been done and is still being done in Southern Rhodesia in connection with the development of Native Agriculture and Native Land Tenure, the reader should know something of primitive traditional Native farming methods and the early history of rural development work for Africans in this colony.

A. PRIMITIVE NATIVE AGRICULTURE

1. The Sparse Population. When the Pioneer Column entered Mashonaland in 1890, its members found the country sparsely populated by a primitive subjected people. The estimated total population of what is now Southern Rhodesia was then not more than 250,000 Natives. They were dominated by the war-like Matabele who had come up from the south about one generation earlier and settled in the western portion of the area.

2. War and Pestilence. The raiding Matabele impis, together with inter-tribal wars, periodical famines, superstitious practices, high infant mortality and disease, kept down the population, which was thinly distributed over the moderately fertile land at an average density of less than 2 to the square mile.

3. Where Natives Lived. In fact, large stretches of the most fertile red and black soils were not occupied at all. For the Natives, by choice, only lived on the easily worked and cleaner sandveld soils of the "Granite Country", where rugged kopjes and granite caves afforded hiding and easily fortified places of refuge from raiding neighbors and the solid granite outcrops afforded dry and termite-free sites for houses and grain huts.

4. Small, Scattered Tribes. These granite areas were populated by scattered, detached groups of Natives of the so-called Mashona tribe, sub-divided into numerous sub-tribes, such as: Vakaranga, Vazezuru, Vamanyika, Vandau, Varozwi, Vamwari, Vanoi, Vakorekore, and Vabudja; and, in Mataberland, the Makalanga and Barotse. Each of these sub-tribes was further sub-divided into sparsely scattered smaller groups throughout the granite areas. The vast areas of red, black and brown soils were left by the Africans almost entirely to the roaming herds of antelope by day, while lions roared and elephants screamed across the starlit stillness of the night.

5. Limited Economic Intercourse. The only economic intercourse between these scattered tribes, if it can be regarded as such, was the raiding upon one another for cattle, grain and women. There were exceptions in a few remote areas, where the people made salt, reed-mats, baskets and pots (as in the arid Sabi River Valley) and carried them up to the adjacent highlands to trade for grain; or, in iron bearing country, where primitive iron workers plied their trade making hoes, axe-heads, arrows and spear-heads for barter and sale.

6. Agricultural Implements. These crude iron hoes and small axe-heads were the major implements used by the people. They were made with a long tapering shank opposite the cutting end of the tool, by which they were mounted into holds burned through the enlarged ends of short wooden handles. The Iron workers were few and far between, and hoes were hard to come by.





They were treasured until worn down to the shank, which was then converted into a narrow-bladed axe-head.

7. His Worldly Goods. In those days, the African in this country had little and wanted less. His worldly goods were limited to the above tools, a sleeping mat of grass or reeds, a few clay pots and a wooden stamping block or hollowed stone for crushing and grinding grain into meal. He lived in a small, vermine-infested, disease-ridden pole-and-mud hut, thatched with grass. He was naked except for a small skin apron or loin cloth made of bark fibre. The women wore goatskin drapes or bark fibre aprons, and were naked from the waist up. These people lived in a life of fear. They were inordinate beer drinkers, grossly immoral and incredibly steeped in superstition.

8. Witchcraft and Superstition. Witchdoctors ruled supreme. Twins were destroyed at birth, as were infants whose course of teething was irregular. Rank ignorance in the feeding and care of infants, coupled with superstition, resulted in a rate of infant mortality of between 80 and 90 percent. The unchallenged belief in witchcraft and the power of the ancestral spirits exerted a heavy toll in limiting the increase in population.

9. Agriculture and Spirit Worship. Every operation connected with tilling the soil and caring for livestock was tied up with spirit worship, superstition and fear of the unknown. A description of the many taboos and superstitions practiced would fill a book. Farming operations were often accompanied by beer-drinking and ancestral spirit worship. The growing season terminated with a veritable orgy of beer-drinking and dancing to that, night after night, the hills and valleys reverberated to the echoes of drums as all night long, man, woman and child shuffled and hopped to a sing-song chanting and rhythmic clapping of hands, only stopping to wash the dust down their dry throats with draughts of beer dipped in long-handled gourds from hugh black pots. Then, when morning came, they went out into the fields with weary bodies and bloodshot eyes to gather the scanty yields from their scanty labours.

10. Native Tillage Methods. The traditional Native method of farming is known as "shifting tillage". That is, after each patch of land has yielded up its fruits for a year or two, the family moves on to another patch. Using the small axes, they clear the new patch of its protective brush and lop off the branches from the standing tree. The dried hush and tree branches are then piled in windrows over the grass covered area and the whole is burned to ashes at the beginning of the growing season. This ash is then hoed into the soil as it is prepared for planting. Then, with live tree skeletons and stumps scattered over the land, the crop seeds are broadcast, all mixed together, and scratched into the scanty cover of loose soil with small hoes. After the planting is finished, the growing crop is left almost entirely to the good will of the spirits and the power of witchcraft charms and magic medicine. After a couple of years, the process is repeated on another patch of land, leaving the abandoned land exposed to the havoc of wind and rain, with its fertility reduced until nature heals the scars; the healing usually takes about 15 years. Such destructive tillage is still allowed and practiced extensively in many parts of Africa. But, in Southern Rhodesia, it is now obsolete, except



on some European farms where tillage by Native tenants is uncontrolled.

11. A Precarious Life. It was a precarious life for the African. In seasons of heavy rainfall, his crops became waterlogged and smothered with weeds. In dry years, they were droughtstricken. In different parts of the country, every year people suffered from food shortages and sometimes from severe famine. Crop lands were small because of the crude tillage implements, and crop yields were nearly always low because of the inept tillage methods. If good yields were obtained, then the full grain bins served as an invitation to be raided by less favored tribes of neighboring areas.

12. What the Whites Brought. After the coming of the Europeans to Rhodesia, inter-tribal feuds were stopped, the worst consequences of famine were abolished by Government aid in times of drought, harmful superstitions were conquered by force of law and by the rapid development of education by the Mission Societies throughout the country, and health among the Natives was steadily improved by the development of medical services by both Missions and Government. The immediate result of all these improvements was a rapid increase in the Native population, which doubled itself in the first 20 years of European occupation, and again doubled itself in the second 20 years. By 1920, some areas had a larger population than the land could carry, especially under the primitive methods of farming. The seriousness of the situation was further accentuated by the ever-increasing use of the plough by the Natives. In 1900, no Natives owned ploughs. By 1910, ploughs were owned by some 3,400 Natives. And by 1920, the number of Natives who owned ploughs increased to 16,000. With the ever-increasing and misguided use of the plough, more and larger areas were put under cultivation, and much soil was ruined by improper ploughing combined with improper tillage.

13. An Indifferent Government. The policy of the British South Africa Company's administration was to allow the African to live his traditional life, doing more or less as he pleased, unmolested. But with the ever-increasing influx of Europeans into the country, it gradually became evident that there was a vast difference between the European way of life and the African way of life. In 1920, the Administration adopted the policy of setting aside defined areas known as Native Reserves in which the African interests would predominate and where they could live under their established tribal customs. There were 95 Reserves created, with a total area of more than 21,000,000 acres. These Reserves were created in the areas in which most of the Africans were already living by choice, namely, the granite or sandveld areas. The land in these Reserves was to be held communally and allocated by the Chiefs to families and individuals for cultivation.

14. Signs of Over-Occupation. Many of these demarcated Reserves were already well-populated and several were showing signs of being over-stocked with cattle. The rapid increase in the number of Native-owned cattle under European protection was phenomenal. In 1902, the estimated number of Native-owned cattle was, for the entire country, 55,155 head. By 1910, the number had increased to 330,000, and by 1920, to more than 850,000 head. There was a similar increase in the number of Native-owned goats and other livestock. Thus, while the number of people had doubled once in 20 years, the number of cattle had doubled four times in 20 years. In several of the newly created Reserves it was found that it was no longer possible to practice shifting





tillage, and each Native farmer had to stay put on the piece of land allotted to him by his Chief or Headman. All these factors, i.e. the increasing population, the number of ploughs, the number of cattle and other livestock, and misguided tillage, made it evident by 1920 that something had to be done toward guiding and teaching the African in better methods of farming.



## B. EARLY HISTORY OF AGRICULTURAL DEVELOPMENT

1. Its Belated Beginning. The inception of a scheme for rural development for Africans in Southern Rhodesia goes back to the year 1910, when the Southern Rhodesia Native Affairs Committee recommended:

"(1) The establishment by Government of central institutes in Reserves, where teaching may be given by expert instructors, not only in regard to the proper methods of tillage, but also in the treatment and rotation of crops and all other branches of agriculture. Instruction would also be given in the management and breeding of livestock.

(2) The immediate establishment by Government of a central training institute for Native teachers."

2. The Start. These recommendations were ignored by the Administration and no action was taken until 10 years later, in 1920, when the Southern Rhodesia Legislative Council adopted recommendation (1) and authorized the establishment of two central institutes. It also created a Department of Native Development. Mr. H. S. Keigwin, with a degree from Oxford, who was a senior Native Commissioner located at Sinoia, was appointed its first Director. In June, 1920, the new director of Native Development located the first of the two industrial training schools in the southwest corner of the Chinamore Reserve, an area of old, worn-out soil, depleted by continuous over-cropping and mismanagement by African farmers. The school was named Domboshawa (Red Mountain) after a nearby granite mountain of that name. Mr. Lovemore, with the combined duties of principal, farm-manager and agricultural instructor, and Mr. Arderne, instructor in carpentry and building, were appointed to get this school started. The school buildings were to be erected by the pupils after their enrolment. One of Mr. Keigwin's first steps was to visit various Mission Stations throughout the country, to see for himself just what the Missions were doing and to get ideas to help him in the development of the new Department and its schools.

3. Keigwin's Discovery. In March, 1921, Keigwin arrived at Mount Silinda Mission, the pioneer centre for industrial training in missionary work for Africans. There, he discovered Mr. E. D. Alvord, B. Sc., M.Sc., an agricultural missionary, sent out by the American Board in June, 1919. Alvord had established a five-year course in agriculture early in 1920, the fifth year of which was a course in "Methods of Teaching Agriculture". Students of the course were in their final year of the Teacher-Training Course.

At the end of 1920, the Industrial Missionary at Silinda had returned to America and Alvord had also been put in charge of the Industrial Department to direct the courses in building and carpentry. Fortunately, in addition to his degrees in agriculture, he held an education diploma in "Methods of Teaching Manual Training and Art Crafts". He had introduced into the school curriculum a graduated course in Manual Training, from elementary "alloyd whittling" to advanced cabinet making. At the time of Keigwin's visit in March, 1921, all these courses were in full swing, and Keigwin felt that he had found the model for his industrial training schools. The crops on the 6 acres of school demonstration plots were at their best, fully grown but still green.





Keigwin spent four days with Alvord, taking copious notes for future reference. He was astounded to see maize plants 12 feet tall bearing 12 inch cobs, and equally astounding stands of other crops in several systematic crop rotations. Before leaving Silinda, he obtained a promise from Alvord to come to Salisbury at the time of the Annual Agriculture Show to help him stage an exhibit on "Native Industries" and help draw up an agricultural scheme for Domboshawa School.

4. The Birth of an Idea. In April, 1921, occurred the birth of an idea which proved to be the key to the later phenomenal agricultural development of Africans throughout Southern Rhodesia. Alvord arranged for a big "before harvest" meeting to be held alongside the school demonstration plots at Mount Silinda, and all adult Natives, Christians and heathens, living on the large Mission farm, were invited to come and see for themselves the results of proper tillage methods and learn the reasons for such results.

After spending two hours expounding and explaining, Alvord asked, "Now, do you understand?" "Eya, Mfundisi!" (Yes, Teacher), came the chorus from all sides. "Mtakati! Uroyi! Muti! Divisi!" (Black magic! Witchcraft! Magic medicine! Witchdoctor's charms!). Then he assured them that no witchcraft or magic medicine had been used, they shouted "Mtakati ya vayungu!" (Magic of the White Man!). Even the Christians were quite certain that it was white man's magic, and nothing he could say would change their attitude. Not one of them had ever seen such maize or any other crops even half as good as those on the demonstration plots. He gave up in disgust when the very pupils who had dug the soil with hoes, applied the manure and planted and cultivated the crops, firmly asserted the the "Mfundisi" must have gone out in the night to sprinkle magic medicine on the crops.

5. Alvord's Discovery. It was then that Alvord made his prodigious discovery - a discovery which was to influence millions and affect the economic development of a whole nation. He discovered that, in spite of teacher, a white man could not hope to teach agriculture to the superstition-steeped Africans, who attributed high crop yields to "Muti", witchcraft charms and the favour of ancestral spirits. He deduced that it was useless to try to Christianize the Africans without first of all intellectualizing their agricultural practices, so filled with superstition, ignorance, witchcraft and worship of ancestral spirits. No boy or girl could be converted in the Mission school, then go back to the home environment and hope to remain a staunch Christian. He decided that, along with education in agriculture, he had to create in the Africans wants and desires which would automatically lift them up out of the sea of superstition and fear which engulfed them. He concluded that the African must see good farming methods demonstrated on his own level, within his reach, by demonstrators of his own black skin and kinky wool. That, before Missions could hope to succeed in preaching the Gospel of Christ, they must preach the "Gospel of the Plough".

6. Demonstration by Blacks. So, in June 1921, Alvord put before the Mission Council at Silinda a scheme for conducting agricultural demonstration work for adult Natives by using a trained African demonstrator who would approach various Native farmers and persuade them that if they would till and plant their land and cultivate as he directed, then they would reap the same wonderful crops as they saw on the school demonstration plots. The best



maize yield was  $32\frac{1}{2}$  bags of 200 lbs. per acre. The Mission Council approved the scheme and voted the money to pay the salary of a full-time African agricultural demonstrator. Alvord appointed Watch Myambo, his agricultural assistant, to do the job, and this man thus became the first African agricultural demonstrator in the country. A total of six Native farmers agreed to become plot holders and started at once to dig the rotted manure out of their cattle kraals and pile it ready to put upon their plots.

7. Cooperation. In August 1921, at the Salisbury Agricultural Show, an outstanding exhibit on "Native Industries" was staged by Keigwin, assisted by Alvord, who rode the 174 miles out to Umtali by horse and the remaining miles to Salisbury by train. The outstanding feature of this exhibit was a 3-roomed "pise de terre" cottage built by Domboshawa schoolboys and furnished with suites of dining room, bedroom and living room furniture made by Mount Silinda schoolboys. Following this show, Alvord spent four days with Keigwin at Domboshawa, where he assisted in laying out the school lands and drew up a scheme for agricultural instruction in the school.

At the time, the staff and the 55 students, ranging in age from 18 to 20 years, were housed in tents and grass shelters while they all worked full time to erect dormitories and classrooms in "pise-de-terre". No instruction had yet been given in agriculture. Alvord returned to Silinda with so many orders for mission furniture that it was decided to employ an European shop foreman and a full-time group of locally trained African carpenters so that these orders could be filled. These men were fathers of Christian families living in their own improved houses on the Mission farm and were delighted at the opportunity to find work without travelling far from their homes.

8. The First Plot Holders. The six demonstration plottolders on Silinda Farm, assisted by Watch Myambe under Alvord's direction, did a fine job. These first plots were 1-acre units, cleared and stumped, heavily manured with well-rotted Kraal manure ploughed in well, properly harrowed, then row-planted to maize. All plots were planted late in November and, after good rains in December, the maize on these plots was even better than maize on the school demonstration plots. But, early in January, 1922, began the severest drought ever experienced in living memory.

9. Drought and Famine. Right in the middle of the growing season were nine weeks without a drop of rain. The hot tropical sun beat down relentlessly day after day. Crops on ordinary Native lands were so scorched that they never recovered and resulted in complete crop failure. The crops on lands of European farmers throughout the district suffered in the same manner. Yet the crops on the six demonstration plots and on the school lands at Mount Silinda gave good results in spite of the drought.

10. A Desperate Measure. Alvord had stumped and cleared with schoolboy labour and put down to maize a 50-acre field. This was check-row planted with three plants to a hill. This maize had made excellent growth and was just tasselling out when the worst of the drought hit it in February. All plants curled up their leaves and turned blue. In desperation, he turned out all the school pupils and had them remove two plants from every hill in the hope that the remaining plant might survive on the limited moisture.







Day after day, they carried the cut maize plants to the edge of the field and loaded them on the ox-drawn wagons to carry in to feed to the suffering cattle .. for even the grass on the veld had curled up and died. Miraculously, the single plants began to recover and freshen up, for some moisture had been conserved from the good rains of December by use of thorough cultivation.

11. The Hunt. Then all the wild pigs, porcupines and various species of antelope in the area began to congregate on this 50 acre field of maize. Alvord organized a big game hunt and drive to which all men and boys turned up with bows and arrows, spears, hand axes and knobkerries. The hunt was a great success. Only one hunter was slightly injured by a stray arrow, but much meat was obtained and the crop was saved.

At the end of the hunt, Alvord gathered the hunters together alongside the kraal for work oxen, near the field of maize. Here, he decided to give them a practical lesson on agriculture by emphasizing the importance of thorough cultivation and a good soil mulch to conserve moisture in the lands.

12. A Rainmaker Discovered. He first took them inside the cattle kraal where there was a loose mulch cover of well-trampled cow manure, inches deep. He asked them to dig down with their spears through the dry manure to the soil beneath. That soil was saturated with moisture. Yet, there had been no rain for nearly eight weeks. Great excitement arose. This was where "Mfundisi" made his rain clouds in the middle of the night; the rain which formed here drifted out over the field of maize, where it fell. They had discovered the hidden secret! In disgust, and in a final effort to convince them, Alvord took them out into the field of maize and had them dig down through dry soil mulch to the soil beneath. This soil was also moist! This was the final proof! They could be fooled no longer. Mfundisi was a great rain maker!

13. A Practical Lesson. When the hunters saw the maize stumps where two plants had been cut away from every hill, they were much concerned because of the foolish waste. If the one remaining plant was green and fresh, why should not the other two have been the same? Alvord tried to explain: "Supposing you had three cows. Each cow had a young calf. The two cows die. Can three calves live nicely on the milk of one cow?" He was answered by ejaculations of understanding. This was something they understood. The three calves would suffer and starve, and some or all would die, for a Native cow barely gave enough milk for one calf. Then Alvord explained how the moisture in a square yard of soil represented the milk of three cows, and the three maize plants represented the three calves. When no rain came, the moisture in the soil became less and only represented the milk of one cow. Then, by removing two of the maize plants, only one calf was left to live on the milk of one cow. Some understood, but many were skeptical. This 50 acre field, when reaped, gave an average of six bags of 200 lbs. per acre.

14. Money for Rain. News spread rapidly throughout that part of Rhodesia and adjacent Portuguese East Africa. A great rainmaker lived at Mount Silinda. Soon, delegations from Native Chiefs living far and wide arrived at the Mission Station with gold coins which they offered to give to the rainmaker in exchange for rain.

15. Famine and Death. Natives generally lived from season to season on the crops they grew each year. Crops were few, as lands were small and



yields were low, and there was no carryover of grain from year to year. As a result of this severe drought, the country was experiencing the worst famine in its recorded history. Famine conditions were even worse in Portuguese East Africa than in Rhodesia. People had to live on the underground roots of certain shrubs and vines and eat the bark of trees. This was fraught with danger as poisonous substances had to be removed or extracted before many of these were safe to eat. Many people died of vegetable poisoning. Men fled the country to find work in Johannesburg mines and other mining and industrial centres, leaving women, children and old people to live as best they could on roots and bark.

An exasperating feature of the Native character was revealed during this famine. Many resolutely declined to help themselves. Young men, married and single, were offered work within their own district a few miles from their homes at the commencement of famine, and declined to accept it. Later, these same men were loudest in protestation that they would die unless fed gratis by the paternal Native Commissioner.

16. Famine Relief Work. The Rhodesian Government accepted its obligation by supplying thousands of bags of grain for famine relief. But people in near-by Portuguese East Africa had no such help. As early as March, they began drifting over the border to Mount Silinda with distended stomachs and pipe-stem legs and arms. A cable gram was sent to the American Board in Boston and funds were provided for famine relief work. Alvord was put in charge. Hundreds of women, children and old men were received in improvised camps where, in return for a feeble day's work, they received a half ration of maize meal. With this labor, Alvord cleared and stumped a large area of about 200 acres of the best arable land on the Mission farm and dug several thousand yards of irrigation ditches. Two spans of oxen with disc gang-ploughs were put to work, and by August an area of 25 acres was planted to early maize under irrigation. There was enough grain from the school demonstration plots and the 50 acre land to feed the pupils until school closed in December, and the Mission had voted not to reopen in January. But Alvord assured them that maize from the 25 acres of irrigated land would be ripe and ready for use by that time. The balance of the cleared land would be planted to ordinary field crops when the rainy season began in November. This land was later sold by the Mission and is now the most fertile section of the Zona Tea Estate.

17. A Revised Scheme. The astonishing yields on the demonstration plots at a time when ordinary lands failed to produce any crops because of the drought, led a large number of Native farmers to beg the Demonstrator to be accepted as plot holders. Only ten of these were accepted and the total number of official plotholders was thereby increased to sixteen. Others were advised to watch and follow as best they could.

It then became evident to Alvord that his demonstration scheme must be altered and improved, and provision made for a permanent system. He therefore rules that each of the six original plotholders must add additional acres to their demonstration plots and conduct a systematic crop rotation on four acres as was being done on the school demonstration plots. The ten new plotholders were to start with the original acre, heavily manured and planted to maize.





18. The Crop Rotation. This crop rotation was designed to build up, rapidly, the fertility of the soil to a high state of productivity and to maintain that productivity indefinitely. The adopted rotation was as follows:

- (1) Maize with manure
- (2) Maize or Kaffir-corn or other intertilled farinaceous crop
- (3) Groundnuts, beans or other legume crop
- (4) Elusine (rupoko) or other close-growing millet crop.

These four crops followed one another in systematic order on the same land, and from land to land, completing the cycle in four years, then repeating indefinitely.

19. Ten Rules for Permanent Agriculture. In conducting this crop rotation, ten things were laid down as essential if permanent high productivity was to be maintained:

- (1) Thorough stumping and clearing to insure continuous easy tillage
- (2) Fall ploughing to conserve moisture and decompose crop residue
- (3) Application of manure once each 4 years to each land in the rotation
- (4) A second ploughing just before planting time to aerate soil
- (5) Thorough seed-bed preparation to insure uniform germination
- (6) The planting of a legume crop two years after manure is applied
- (7) Proper spacing and planting of all crops, row planted and broadcast
- (8) The planting of maize on yearly-manured land
- (9) Planting of a heavy-rooted, close-growing crop after the legume
- (10) Crops must not be planted mixed together in the same land.

20. Organic Farming. This rotation was found to be ideal, especially for the typical sandveld areas occupied by the Natives. Cattle kraals everywhere were belly deep in well-rotted cow manure, for Africans had never learned to use it on their lands. This manure was almost pure humus. When applied to the soil, one bag every four yards in each direction over the lands (about 15 tons per acre) it supplied abundant food for the development of micro-organisms and their activities. This activity of micro-organisms is the greatest factor in soil fertility, with the accompanying ammoniation, nitrification and fixation and the liberation of plant food elements - especially the setting free of carbon-dioxide and water, so essential to luxuriant plant growth and high yields.

The legume crop, coming two years after the manure on each land, assured a continuance of nitrogen-fixation and provided the necessary change of crops for a healthy soil. The close-growing, heavy-leafed millet crop after the legume, smothered all weeds and filled the soil with a dense growth of fibrous roots and gave all the benefits of a grass ley without interfering with the continuous cropping of the lands. The thorough cultivation which accompanied the inter-tilled crops, together with the organic matter supplied by manure, legumes and the heavy mass of grass roots, gave the soil proper aeration and intensified the activities of decay bacteria which led to the restoration of the stock of available plant food in the soil, phosphorous, sulphur, calcium, magnesium, potassium and other elements, that had been made fast in plant



tissue. It was organic farming at its best. Phenomenal yields were obtained from this rotation, year after year.

21. Continued Success. While the six original plotholders added to their lands to introduce this 4-course rotation, the ten new plotholders made a good job of stumping, clearing and manuring their initial 1-acre units and planted them to maize. Maize, being a rank feeder, was the only crop which could be safely grown with the heavy application of manure, without burning in the event of drought - which might occur any time during the growing season. The rains of the 1922-23 season were very good. Crops on demonstration plots were better than ever.

The Native plotholders began to believe that witchcraft and ancestral spirits had nothing to do with crop production. Alvord was making good progress in preaching the Gospel of the Plough. The Maize on the best plot stood 14 feet high with stalks as thick as his wrist. The cobs were 12 inches long and  $2\frac{1}{2}$  inches thick. He had been in correspondence with Keigwin and the latter came to Mount Silinda in February to see for himself. He returned to Salisbury with such a glowing report that, two weeks later, Sir Herbert Taylor, Secretary for Native Affairs, together with H. M. G. Jackson, Assistant Chief Native Commissioner and Mr. Elliott, Superintendent of Natives, Eastern Mashonaland, arrived at Mount Silinda to verify the saying, "Seeing is believing".

22. The Visitors Astounded. Then, in March, Major H. G. Mundy, Chief Agriculturalist, came from Salisbury to seek final proof that the suspected fairy tales were true. These visits involved the long train journey from Salisbury to Umtali, then a trip of 174 miles by mule-drawn vehicle via the Melsetter highlands to Mount Silinda. All visitors were astounded to see the luxuriant growth on demonstration plots, which loomed up like dark green islands in a sea of yellowish-green stunted crops growing on the ordinary Native lands about them. It was a striking demonstration of a system which gave excellent results right from the start. Alvord had begun right at the bottom, with soil worn out by years of misuse and abuse and, using the natural fertilizer available to the poorest Native farmer, he had transformed scattered patches of depleted land into island paradises of rejuvenated soil and bumper crops, where maize grew three times as tall and produced ten times as much per acre as on Native lands adjacent to it. From a vantage point on the east slope of Mount Silinda, they could look over the Zona Valley and see all the plots at one time. The value and worth of this scheme was emphasized when all the plotholders positively assured the visitors that no magic medicine or witchcraft charms had been used, and all seemed to have a good understanding of the principles involved. From the remarks made by the visitors, it was evident that Alvord's scheme for agricultural demonstration work for adult Natives had attracted considerable attention. That year, the average yield from the demonstration plots was twenty-six bags per acre, while European farmers averaged two bags per acre. An outstanding feature of the scheme he had applied in the school was a series of individual class plots, planted by the pupils, the most important phase of which was the growing of vegetables and temperate climate field crops under irrigation during the dry winter season.







23. The Education Commission. When the "Phelps-Stokes Educational Commission to South and East Africa" visited Mount Silinda, in May 1924, These irrigated individual class-plots were at their best. There was a total of seventy-two students at work, each having five hours of practical work in agriculture and five hours of woodwork each week. In their published Report, p. 247, they stated: "The industrial and agricultural training at Mount Silinda ranks with the best - possibly it is the best in the entire country"; and, on p. 248: "The manual training is excellent.....and agriculture is on a large scale, over 200 acres being under cultivation. Theoretical and practical instruction are given, and each Native has his own class plot and vegetable allotment".

24. Responsible Government. In September, 1923, Responsible Government was established in Southern Rhodesia and the colony was formally annexed to the British Crown as a self-governing colony with its own Legislative Assembly. The attitude of complete indifference as to what the Native did in his own areas began to change and the new Government decided that the African needed guidance to prevent his lands from being ruined by his own ignorance. In 1924, a decision was made to adopt the "Alvord Scheme" and apply it to all Native areas and a total of twelve selected Native men were sent in by Native Commissioners for a two-year course of training as Demonstrators. Six were enrolled at Domboshawa and six at Tjoletjo, the second Government industrial training school for Natives, which had been established on the Gwaii Reserve in Matabeleland. These men were to be ready for appointment as Demonstrators in November, 1926.

25. Commission on Native Education. The new Government also appointed a Commission on Native Education in 1924. This commission made its report in early 1925, and included the following statements:

"But we feel it our duty to point out, despite what has been achieved by the many educative agencies at work, the Native Department of-  
ficials, the missionaries and the various civilizing influences of  
our virile European community, the following unpleasant aspects:

- (1) The intemperate use of beer continues.
- (2) The kraals are in an unsanitary and unclean state. Calves and goats are housed in living huts, the huts badly erected and it is, in the main, only in the immediate vicinity of some mission stations that better conditions are to be observed.
- (3) The belief in witchcraft is still wide-spread and causes a degree of crime, injustice and unhappiness which can hardly be overestimated.
- (4) The agricultural methods pursued are wasteful, slovenly and unnecessarily ineffective. The almost general use of the plough connotes an advance in the economy of human labor, but it is so unintelligently applied that its result is of doubtful economic benefit. (p. 9).

"We have made it sufficiently clear that we regard agriculture and stock raising as forming the basis of all industrial training, if not all Native secular education.....We believe that agricultural training, imperfect though it may be, to be given at third-class schools, will at least increase the receptivity of the



pupils' minds when they at a later state have to face the economic question." (p. 93).

This was written in 1925, thirty-five years after the Europeans occupied the country.

26. Discontented Mission Societies. Shortly after this report was published and made public, the Southern Rhodesia Missionary Conference met in Salisbury. They leveled at Government severe criticism because of the large sums spent on the top-heavy Department of Native Development and its two small industrial training schools, while little or nothing was being done to assist Missions, who at that time were carrying the full load of Native Education in several hundreds of schools throughout the country. As a result of this criticism, a decision was made by the Government to disband the Department of Native Development and replace it with the appointment of an Agriculturalist for Instruction of Natives, whose chief duty would be to organize agricultural instruction in Mission schools throughout the country and to direct the agricultural education of adult Natives living in the Native Reserves. Keigwin was offered his old job back as a senior Native Commissioner. He refused, and left the country.

27. An Offer of Appointment. Since the new officer was to be an Agriculturalist, it was decided that he should be appointed on the staff of the Department of Agriculture, which had been created to serve only European farmers throughout the country. Since the twelve Natives in training as demonstrators would not complete their course until late in 1926, the appointment had to be made before that time. In March, 1926, Major Mundy wrote to Alvord asking if he would consider appointment to the post at four steps up on the Junior Technical Assistant's Grade. If so, to reply by telegram at once, then post an application together with testimonials, details of qualifications and experience. Meanwhile, to treat the matter as strictly confidential as it was not yet in his power to offer the appointment.

28. The Hand of Destiny. Alvord recognized the hand of destiny. It would mean that instead of serving a few hundred Natives on the Mission farm, he would be in a position to serve hundreds of thousands. In other words, his scope as an agricultural missionary would be increased to the nth degree. So he immediately dispatched a telegram of acceptance and posted the application by registered mail, enclosing his three diplomas in Education, two degrees in Agriculture, several testimonials and an account of his experience of several years as an agricultural educator in America before coming out to Rhodesia. Meanwhile, he did not mention the matter to any of his colleagues on the mission. A week later a reply came from Major Mundy stating that upon receipt of the application a situation arose to complicate matters, which would take a time to sort out. He hoped to let him know definitely in a fortnight's time. "Meanwhile, please treat the matter as strictly confidential".

29. An Episode. Weeks passed without word from Mundy. Then occurred an episode which had a direct bearing upon the future success of the work. The missionary in charge of outstation schools suddenly took ill with fever. Alvord agreed to inspect a school for him on the Eastern Border, adjacent to Chibudzana Farm, which belonged to the only "Lady Member of Parliament" and her husband. The latter had given Alvord a standing invitation to visit his farm at the first opportunity and advise him on agricultural matters. So,





deciding to kill two birds with one stone, Alvord left Silinda at noon of the day before, made the thirty mile journey by motor-cycle and spent the afternoon and night at Chibudzana Farm.

At the dinner table that evening, the "LMP" asked Alvord what he intended to do, as it was rumored that the Mission was about to close down. During the conversation, thinking that as a Member of Parliament she might know something about it, he mentioned that if there was a possibility of a post being created for an Agriculturalist for Instruction of Natives, he might apply for it. She then proceeded to list a score of reasons why he would never be able to fill the post and ended by asserting "You wouldn't have a ghost of a chance to get the job, and it would be a sheer waste of time, both for you and for the officials, for you to apply for it." So he changed the subject.

30. The Appointment. Alvord arrived back at Silinda next day just in time for the arrival of the weekly post. In that post was the official offer of appointment as Agriculturalist for Instruction of Natives. He made it known and news spread like wildfire over the Mission Station. The Mission doctor received a summons in the same post to make an urgent medical call on a settler who also lived on the Eastern Border. He and his wife-drove off post haste. They stayed overnight with the "LMP" and broke the news to her. Back at Silinda they related how very upset she was and some of the derogatory things she had said about Alvord and the fools who had appointed him, she stated that she was going to take the matter up in Parliament and get it cancelled.

Major Mundy, in his letter to Alvord, explained that the delay was due to his qualifications and experience being greater than they had anticipated, and they now offered him appointment in Senior Technical Assistants' Grade for a three year probationary period at £600 per annum, at the end of which, if his work was satisfactory, he could apply to be placed on Fixed Establishment of the Civil Service at £600 by £25 per annum to £800. He accepted by return post. It was arranged that he should report for duty on October 1st. He had recently returned from a year's furlough in America and, in leaving the Mission, he was required to refund a considerable portion of the transportation of himself and family back to the Mission field. This meant a serious financial sacrifice, but he felt that the increased scope for service to the African warranted this loss.

31. A Dream. He left for Salisbury before sunrise on September 26th, travelling by motor-cycle and side-car, in which he carried his suitcase and a Native servant, his wife and four children were to follow on a month later after he had time to find a house in Salisbury.

He travelled on a new and shorter road, recently cut through the jungles of the low-lying Sabi Valley. This road avoided the long tortuous journey via Melsetter and reduced the distance by 44 miles. The elevation through this Valley was from 1200 to 1800 feet as compared with 5000 to 6000 feet by way of Melsetter. The valley road was then little more than a trail, passing through three large Native Reserves and skirting the edges of large areas of almost flat river-side, and lakebed alluvium soils, very fertile. The road also crossed several strong-flowing perennial streams and rivers coming down from the Melsetter highlands, where the annual rainfall was around 70 to 80



inches. "What a waste of wealth!" thought Alvord.

As he camped for lunch, under a large tree on the south bank of the Nyanyadzi River, at the North end of several hundred acres of rich lake bed alluvium, he remarked to his Native servant, "See this beautiful large area of very rich soil! In a few years' time, all this land will be under luxuriant crops grown under irrigation and hundreds of prosperous Native families will be living here". The servant looked at him in alarm, thinking he had suffered a heat stroke, for the sun was very hot in the Valley, then remarked, "Wa rota! Akuna mvura pano!" (You are dreaming! There is no rain here!). Alvord promised, "One day, you will see that dream come true".





C. A PERIOD OF TRIAL AND ERROR.

1. Assuming Duty. Alvord arrived in Salisbury in the afternoon of September 27th, having covered the 300 mile journey in two days. His motor-cycle was ruined. Fine, dry sand had worked into the bearings and engine. He reported to the Chief Agriculturist on the morning of October 1st.

Mundy's first words were, "What in the world have you done to the Lady Member of Parliament?" He said she had written letters of protest about his appointment to the Prime Minister, the Minister of Agriculture, the Chief Native Commissioner and others. Her chief objections were that he was a foreigner, a missionary, did not know the country, the Natives or their language, and that he held very low qualifications. "Of course he holds a degree from some little American college, but everyone knows what American colleges are like. They are no higher than a second-rate technical high school in England."

After lunch, Major Mundy took Alvord to see the Chief Native Commissioner and the Assistant Chief. They were both greatly worried and very perturbed about the IMP's letters, and expressed doubts that Alvord could do the job. Alvord told them not to worry. If he had not been absolutely sure he could handle the job he would have been a fool to leave the Mission, with a wife and four children, and come to Salisbury among strangers. He also told them that he welcomed the IMP's opposition and considered it would do more good than harm as he would now work even harder to make good on the job. This proved the case. Her opposition was active for nearly three years, and not only stimulated Alvord to greater efforts, but caused all the more elation when her statements were refuted.

2. The First Assignment Alvord's first assignment was to visit Dom-boshawa School, report on the six demonstrators-in-training, report on the agricultural status of the school and draft recommendations. He was astonished to find that agriculture had no place in the school curriculum and all industrial instruction given was in building and carpentry. There were about 130 pupils in the school, none of whom were given instruction in agriculture. The Principal of the school, a former missionary, was not only opposed to agricultural instruction, but there was an evident depreciation of agriculture in the opinion of the pupils and the entire staff. The so-called "Farming Instructor" of the school was little more than a farm foreman and the school farm was being worked by the six demonstrators-in-training and a few paid labourers. The demonstrators-in-training had received a very sketchy and elementary course of instruction. They knew nothing of the principles of crop rotation or the advantages of applying kraal manure.

Since the whole scheme was based on systematic crop rotation and organic farming by the restoration and maintenance of humus in the soil, Alvord refused to accept responsibility for these men as demonstrators in Reserves and recommended they be kept on at the school through the following growing season to be given instruction in manuring, crop rotation and demonstration methods. He also had to report that the school had no agricultural status and had deviated considerably from the original sound lines on which it was established. He drew up a scheme for the inclusion of agriculture in the school curriculum and made recommendations with regard to its implementation.



3. Strong Opposition. This report was submitted to the Chief Agriculturalist, who transferred it to the Chief Native Commissioner, under whose direction the school had been placed when the Native Development Department had been disbanded. The CNC then transferred it to the Principal, Domboshawa for his information and comments. The latter wrote a nine-page refutation, asserting that the boys in the school did not want agriculture, and, if they were forced to study it, they would all leave school and the school would have to close down. He also questioned Alvord's right to assert that the school had deviated from its original scheme. "How can a stranger come in 1926 and make such a statement, when the school was started in 1921? What does he know about the original policy?"

The answer to that, of course, was that Alvord has assisted Keigwin and the former Principal to draw up the original scheme in 1921. The CNC then instructed the Principal to carry out all the recommendations and ruled that the school should thereafter come under Alvord's direction with regard to agricultural matters. As a result, the enrollment of this school was tripled in two years' time and had to be limited to 350 thereafter, with a long waiting list.

4. A Vexing Problem. With regard to the recommendation that the demonstrators-in-training must remain on for an additional year of training, the CNC ruled that this could not be done because, when they had been recruited for training, they had been promised that after two years' training they would be appointed as Demonstrators on a Reserve with a starting salary of £2 per month. Alvord met this objection with the proposal that they be appointed as Demonstrators at this salary from November 1st, 1926, but that they remain on at the school for further instruction and do practice demonstration work on the adjacent Chinamora Reserve under the supervision and direction of the Agricultural Instructor at Domboshawa. This was agreed to. With regard to their salary, Alvord maintained that £2 a month was ridiculous and proposed that when they were finally appointed after the additional training, they should be started at double that sum, in order that the good salary would command responsibility on their part. This was later approved.

About the middle of October, Alvord visited Tjolotje School. He found that the six demonstrators-in-training there had been given satisfactory instruction in elementary agriculture, but felt they too would benefit by remaining on at the school for the following season and doing practice demonstration work under supervision for the adjacent Gwaii Reserve. He further found that Tjolotjo, like Domboshawa, had no agricultural status and this school was also placed under his direction.

5. Wasted Time. Having no demonstrators on Reserves to supervise, the Agriculturist's one remaining duty was to try and organize agricultural instruction in Mission schools. This meant visits to various Missions, for each Society worked independently, with superficial direction from the European Department of Education. But, there were no funds for his transportation. He could only visit a Mission station if an agricultural officer happened to visit a European farmer in the area, when he could go along for the ride. A large group of American Tobacco advisers had just been employed and all available funds for transport were allocated to their use in advising European farmers on tobacco growing. He made one visit to Waddilove Mission





in December, and that school agreed to start a course in agriculture when the new school year opened in January 1927. Thus, Waddilove became the first school to introduce agriculture into its syllabus under the new scheme.

With little else to do, the Agriculturist decided to occupy his time in compiling 56 lessons in elementary agriculture for use in Native schools. Much time was spent with Major Mundy in weeding out the so-called Americanisms, i.e. translating each chapter from the American to the English language. It became very evident that the Department of European Agriculture had no interest or concern for the improvement of Native Agriculture and, for evident political reasons, was only for the service of white farmers. The Chief Native Commissioner took the necessary steps to arrange a transfer to the Department of Native Affairs.

6. The Real Beginning. On April 1st, 1927, Alvord ceased to be a Senior Technical Assistant in the Department of Agriculture and became the Agriculturist, Native Affairs Department. That date marked the real beginning of his work. Ample provision had been made for his motor transport. He started by holding "before-harvest" meetings alongside the practice demonstration plots on Chanamore and Gwaii Reserves, then proceeded to hold preliminary meetings on the various Reserves where the new demonstrators were to be located. These men assumed duty in July, when two of them were posted to Reserves in Northern Mashonaland, two in Eastern Mashonaland, two in Southern Mashonaland, one in Midlands and four in Matabeleland.

During this first year, Alvord travelled from one end of the country to the other, inspecting demonstration plots and visiting Mission stations. He gave 106 lectures on farming to day-time meetings and 70 evening stereopticon lantern lectures on various phases of agriculture. He lectured at 6 different Teachers' Conferences; visited 46 of the more important Mission stations and the total attendance for all meetings was 35,966, or an average of 204 persons per meeting. It was indeed a real beginning.

7. Agricultural Status of Natives, 1927. In 1927 the estimated Native population was 888,090 of which 562,720 were living in the 95 Native Reserves. The Agriculturist's work was limited to the Native Reserves and the Missions. He found that the people in many parts of the country were even more primitive and more poverty stricken than around Mound Silinda, and it was extremely difficult for missionaries to make an impression upon them. Since they were without a written past, one could truthfully say they were a people just emerging from their prehistoric age. The men were largely hunters and pastoralists, leaving what little tillage that was done to the women. By then, the number of Native-owned ploughs were more than 33,500, but most of these were used by women and children. Most herding was done by boys, so that the men spent most of their time around the beer pots.

There was little inducement to produce grain for sale. The markets all belonged to the European farmers. Even in the near vicinity of Salisbury and other large towns there was no market for their crops. There were only a limited number of "Kaffir truck" stores scattered about the country and these did not buy for cash. They only traded salt or limbo for grain in small quantities. The total grain sold that year, when compared with the population, averaged less than one-fourth bag per person.



8. Scattered Lands and Poverty-stricken Cattle. It was the custom of the Natives everywhere to have little lands and gardens scattered throughout the Reserve. One man might have several of these small patches several miles apart, sandwiched in between other people's lands, all scattered like small detached islands in a sea of grass. The mud-and-pole huts were also scattered and hidden away in the bush and rocks. Each man was a king unto himself and looked upon all others with suspicion.

During the summer rainy season, as the crops grew on these small scattered lands, there was no place for cattle to graze without danger to crops. As a result, there was constant litigation on crop damage in the Native Commissioners' courts and, to obviate this, the cattle were herded and held in selected areas until the grass was gone and the ground became bare. By that time, the sea of grass between the scattered lands had become dead ripe and unfit for food. There was always an abundance of tall, dry grass, but in its woody, mature state, it took more energy out of a beast to digest it than the beast could get from it. Thus, cattle went into the dry winter season in a state of poverty and every year there were many deaths from starvation. In 1927 alone, it was estimated that more than 25,000 head of cattle died from poverty.

9. Agriculture and Mission Schools. In 1927, the Missions and missionaries had given little thought to the importance of agricultural instruction in the schools. The rule was to belittle agriculture as unworthy of intelligent thought. The general aim of Missions was to educate the pupils in the kraal schools enough to enable them to read the Gospels in their own language. In higher schools, the aim was to train them as teachers or for jobs in the European towns. The whole tendency was to wean them away from the land in which their lives were centered. The general view was that any advancement in agriculture should be left to the European farmers.

At that time, there were eight different Christian denominations working in Rhodesia. These maintained a few Training Schools which gave instruction up to Standard V; only three had industrial training; and only Mount Silinda gave instruction in agriculture. Alvord's thesis on preaching the "Gospel of the Plough", together with his lantern slides, proved good propaganda, and in 1927 most missionaries in the 46 stations he visited agreed to the importance of practical agricultural instruction. Seventeen of the most important Mission schools applied for the new course in agriculture. The problem was to find trained agricultural teachers. Fortunately, there were several men available who had been trained in "Methods of Teaching Agriculture" by Alvord at Mount Silinda and he was able to supply most of them with the necessary teachers.

10. An Uphill Start. It was a difficult, uphill business to get the eleven new demonstrators established on Reserves. An idea of the difficulty may be had from the case of Selukwe Reserve in the Midlands. At the preliminary meeting in May, after the Native Commissioner and Alvord had explained the scheme to the people, Chief Nema, the Paramount Chief of the District, arose to speak. Nema was an old conservative reprobate, steeped in superstition, witchcraft and taboos and would have nothing to do with the Demonstrator or the scheme. He harangued his people, warning them not to believe or follow. This was only a scheme of the Government to test their land. If they found it was good land, they would take it away and give it to the white men. They did not want a Demonstrator. What they wanted was more land on







which to graze their cattle. Even at that very time, cattle were dying of starvation because there was no grass for them to eat.

Alvord pointed out to them the waving miles of uneaten grass growing between the scattered small lands, not fully matured and gone to seed, unfit for cattle to use. He told them that the demonstrator would help them to make proper use of that grass. But Nema was adamant. Nothing could convince him. Alvord then asked if anyone present at the meeting belonged to the Anglican Church at St. Francis Mission on this Reserve, and said that the demonstrator was a member of the Anglican Church. Thereupon, a sub-chief named M'Hlolo and several of his headmen agreed to become plot-holders when the new demonstrator arrived.

It was equally difficult in the other Reserves. In fact, only three demonstrators were able to get their full quota of ten plot-holders. One got eight, four got seven, one six, two five and the one on Somokwe Reserve was able to persuade only four men to take plots under him.

11. A question of Status and Salary. The Report of the first year of work by the Agriculturist for Natives, as published in the Report of the Chief Native Commissioner for the year 1927, makes very interesting reading. The CNC was so pleased that he decided to take up the matter of status and salary for this officer. He felt that since the Agriculturist was required to work in full cooperation with senior officials in the Native Department and had the same large scope and responsibility in this particular work as they in theirs, he should be placed on the same salary grade as District Native Commissioners, which at that time was £675 x £25 per annum to £900. He submitted a recommendation to this effect to the Premier, who was also Minister of Native Affairs.

This recommendation, submitted in April 1928, was turned down and, in his reply stating that Alvord should continue on the terms of his original appointment, the Secretary to the Premier wrote: "In five years' time it is anticipated that the work of Agricultural Instruction to Natives will have increased so much and will have become of such importance that possibly a man of higher qualifications even than Mr. Alvord will be required". The joker in this statement was in the fact that, excluding Alvord, the most highly qualified agriculturist then in the Government service held only a diploma from a two-year diploma course.

12. Demonstrator Training Revised. It became evident in 1928 that the first class of demonstrators possessed too low a literacy standard to cope adequately with the work. Accurate records and daily diaries had to be kept. The best of them, although full grown men, had only completed Standard III. It was, therefore, decided to raise the entrance qualifications for demonstrator training to Standard V.

This faced the Agriculturist with a difficult problem. All Missions, except Mount Silinda, which had then been fully developed in its Mission field, needed all their Standard V graduates as teachers in extending their work, and no candidates for demonstrator training could be obtained from them. Fortunately, Mount Silinda had a big surplus, many of them mature men, who had trained and completed the course of agriculture under Alvord. During the next several years, a total of sixty of his former students came to Domboshawa to complete the demonstrator training and then joined his staff. A few years later, the entrance qualification was raised to Standard VI.





In August 1928, the CNC approved a proposal by the Agriculturist to make a preliminary survey of a proposed irrigation project on Mutema Reserve in the hot and arid Sabi Valley. And in September, he surveyed and pegged the first irrigation canal from the Tanganda River.

13. A Revived Native Development Department. In 1928 a Department of Native Education, with a Director imported from Natal, was established as separate from the European Department of Education which had been trying to inspect and examine Mission schools. Its establishment marked the beginning of an unparalleled development of rural schools for Natives.

In April 1929 this Department became the Department of Native Development and the Agriculturist for Natives and all his demonstrator staff were transferred to the new Department. Unfortunately for his work in the Reserves, this new Department was completely separated from the Native Affairs Department, coming under a separate Cabinet minister. From 1929 onwards Alvord experienced an increasing antagonism on the part of administrative officers with regard to work in the Reserves. In many instances he had to battle along unaided receiving more rebuffs than encouragement. Not only was he a member of an entirely separate department, but he was also a foreigner, and some administrative officers considered him an interloper interfering in the administration of Native Reserves.

14. The Birth of "Centralization". In November 1928 during the "before planting" inspecting of demonstration plots, Alvord camped on the bank of the Jobolinko River, near St. Francis Mission on Selukwe Reserve. M'Holo, the Sub-Chief, accompanied by M'Toniso, one of his Headmen, came to the camp with a chicken, some eggs and a bottle of fresh milk as gifts of hospitality. The excellent crops harvested from their demonstration plots at the end of the previous season had completely won their confidence. Alvord got into a conversation with them about their cattle, which at the end of the long dry season were very poverty-stricken. And, there, under the Southern Cross of the African star-lit sky, he painted a word picture for them of the fine fat cattle they would have if the people under each Headman would centralize their arable lands into solid blocks and set aside large areas for the communal grazing of cattle during the growing season. Then, after harvest, the cattle could overrun the arable lands to clean up the crop residue and uneaten grass and aftergrowth, while the grass in the grazing areas had a two months' rest for regrowth and going to seed.

M'Holo deserves a monument to his memory, for at the end of the 'before harvest' meeting in April 1929, he stood up against the antagonism and opposition of Paramount Chief Nema, his witchdoctors and all his followers, and stated that he and the 13 Headmen under him with 563 families on their books, had decided to centralize and he asked the Agriculturist to help them do it properly. So, in July 1929, Alvord made a theodolite survey demarcating boundaries and erecting beacons for an arable block for each of the 14 groups of families. This movement became known as a "Centralization" and later brought about a social revolution in the life of the Native people living in Reserves.

15. On Fixed Establishment. Alvord completed his three-year probationary period at the end of September 1929 and made application through the Head of his Department to be placed on the Fixed Establishment of the Civil Service. The Director of Native Development submitted a minute to the Secretary Department of the Colonial Secretary, under which his department was controlled.





He made out what he considered a very strong case and asked "that authority be given to place Mr. Alvord on the Grade £675 x £25 to £900 per annum." This was the scale for approximately thirty other officials in the Native Affairs Department with whom the Agriculturist was required to work in full cooperation and was, in effect, what the Chief Native Commissioner had asked for in 1928. The reply to this minute was "Mr. Alvord is a foreigner and, in view of the fact that he is not a British subject, he should be graded in accordance with the terms of his original appointment". He was then offered further appointment on Fixed Establishment at a salary of £625 x £25 to £800 per annum.

16. Working Under Difficulties. The decision seemed to Alvord an ungrateful recognition of the services he was rendering. The job itself was a difficult and exacting one. Because of the nature of the work, he was required to do a maximum of travel right through the rainy season when most of the administrative officers did not get out into the Reserves. In fact, there were some administrative officers who had never been out into the reserves they were administering until they went out with Alvord to hold "preliminary" meetings for the location of a demonstrator.

We had to do "before planting" inspection of demonstration plots in October and November, the hottest and most trying months of the year; "growing season" inspection in December, January and February, when rains were heaviest and roads were a sea of mud; a "before harvesting" meeting circuit in March and April, the worst time of the year for fever inspection. In order to cover the work spread over a country as large as California, and do it during the periods of time necessary for the best progress of the work, he had to rush through all hours of the day and sometimes travel at night, weekends and Sundays, while administrative officers and other technical officers kept at head office during the rainy season, worked from 8 a.m. to 4 p.m. with morning and afternoon tea, an hour off for lunch, and a free weekend from Saturday noon to Monday morning. He had to travel off the beaten track, on the poorest of roads and often where there were no roads at all; struggle by car through dry river beds of loose shifting sand in the dry season and through the same flooded rivers in the wet season; spend hours digging out of mudholes or shifting sand; sometimes walking for miles to inspect demonstration plots which could not be reached by car, and completely soaked by rain or sweat most of the time. He found that thorough supervision was essential in order for farming demonstration work on Reserves to be successful.

17. A Decision to Resign. Most of the Native Reserves were in the middle and low veld areas, far remote from European settlements in the high veld, and were in fever-stricken areas infested with lions, leopards and elephants and other dangerous wild animals. These areas were considered unhealthy and unsafe for Europeans. Fortunately, Alvord was husky and healthy, and it took a lot to lay him out. But he felt that the strain of the work, the risks involved in conducting the work properly, and the specific duties involved ought to receive more fitting compensation. In performing his duties over the large areas in the form of circular trips from headquarters, he was often away from home six weeks at a stretch and actually spent in his own home and head office at Salisbury less than one-fourth of the year split up into short periods. It meant that the job of raising the children, paying monthly bills and looking after the home fell entirely upon his wife, while



he gave more than full time to Government service. To him, it was a big job and warranted the pay of a big job. Since the authorities considered it a little job, he did not propose to ruin his health cut off his span of life and sacrifice his home life in a thankless task. The people at Mount Silinda were eager for him to return to his old job there. So he decided to resign from his work "On His Majesty's Service".

18. Agriculture for Schools. For three important reasons, however, he decided to postpone the carrying out of his decision to resign, and he temporarily accepted the decision of the Public Services Board and was placed on "Fixed Establishment". These were the reasons: 1. In the terms of his appointment he would be entitled to 5 months leave on full pay upon the completion of  $3\frac{1}{2}$  years of service; and he had already put in three years. 2. A large group of his former agricultural students from Mount Silinda had enrolled at Domboshawa for demonstrator training, having left good jobs as teachers just to help out in this work. 3. He had submitted to the Director of Native Development an all-out plan for putting agricultural instruction into the syllabus of all Native schools. During discussion of this plan, the Director noted the need for specially prepared lessons in elementary agriculture for use in Primary Schools and requested Alvord to prepare some. The latter informed him that he had already done so in 1926 while attached to the Department of Agriculture.

After reading the typewritten draft of these lessons, the Director complimented Alvord upon the manner in which they had been arranged with regard to modern educational principles and said "I have only one criticism. There are too many Americanisms". Alvord thought "How did Major Mundy overlook any Americanisms?" and asked, "What particular Americanisms do you refer to?" "Well, take this term "scrub" cattle; you ought to substitute the British equivalent for that." "I'll be glad to", replied Alvord "if you will tell me what it is". After consulting several dictionaries, he could find no substitute for "scrub" and when asked for other Americanisms, changed the subject.

19. The Director's Tour. The Director was very enthusiastic about the agricultural demonstration work on Native Reserves. He felt that it was the only real development work which his Department of Native Development was doing. He was very keen to take a tour with Alvord to see something of the work first hand, and meet with groups of ploholders. Although Alvord's five-months leave was due from the end of April, he decided to postpone it in order to take the Director on a lengthy tour in May, and also to hold "preliminary meetings" for the location of new demonstrators who would assume duty in August and hold the Annual Conference and Refresher Course for demonstrators at Domboshawa in June.

So, during May, they arranged through Native Commissioners for meetings in various demonstration centres in order that the Director could take to small groups of demonstration ploholders and any other interested Native farmers. They had held five meetings with small groups before arriving on Selukwe Reserve. There, they found old Chief Nema, the obstructionist, with all his Councillors and Headmen, and nearly 2,000 followers, awaiting them at the place of meeting. The Director was elated at this fine turnout in his honour, but after making a long speech in the flowery Zulu tongue, which they all understood, he discovered the real reason for the big welcome.







20. Chief Nema and Centralization. Chief Nema rose and in a dramatic manner, supported by all of his forty-four Headmen, and with the acclamation of the entire gathering, demanded that his entire Reserve should be centralized into blocks of arable and grazing lands. He expressed severe criticism because the previous year Alvord had centralized for Sub-Chief M'Holo and his thirteen Headmen and families. "Why didn't he come to me first?" he asked, apparently forgetting his antagonistic attitudes at the meeting in April 1929.

His right-about-face was so astonishing that the Native Commissioner wanted to know the reason. Nema explained: A month previously, in April, a big cattle sale was held in Selukwe Reserve. Cattle buyers from the mining town of Selukwe and from the Midland metropolis of Gwelo attended in large numbers, for they had heard that there were some fine, fat cattle available. But at the sale, the only people who had fat cattle which interested buyers were M'Holo and his people, who had centralized. Now, they all wanted fat cattle. They must, all of them, have centralization.

Alvord was due to go on long leave, but decided to postpone it until September, and during a six-weeks period, he made a theodolite survey demarcating and beaconing centralized arable blocks and communal grazing lands throughout the entire Reserve, an area totalling more than 150,000 acres. Thus began the policy of "centralization" of which, as early as 1931, it was recognized by the authorities that "where adopted, centralization simplifies administrative problems and makes more easily possible improved agriculture, security of tenure, the stabilization of home life, the consequent adoption of more progressive attitudes and of higher standards of educational stability within the locality".

21. Another Rebuff. Upon his return, the Director wrote to the Secretary, Department of the Colonial Secretary, "I have returned from that trip most encouraged at what I have seen and heard. In spite of the fact that I have previously attended two conferences of demonstrators, and that I had their reports and those of Mr. Alvord, I had no idea of the real scope of the work. I returned feeling that an extraordinarily good piece of work has been done by him in the last three years, and that his results in the Reserves I have visited are astounding. This impression has been confirmed by conversations with Native Commissioners concerned, and with local traders and farmers. The achievement of his demonstrators is itself beyond debate."

He then went on to recommend that, on the expiration of his present year of service, Alvord be placed on the improved salary grade then paid to all other technical officials doing work of similar responsibility, namely £675 x £25 to £900. The reply to this was, "Mr. Alvord is a foreigner and not a British subject and will have to remain on the scale to which he was originally appointed."

22. Riding on Ballons. Upon his return from long leave in February 1931, Alvord decided that steps must be taken to ease the hardships of motor travel in Reserves, especially with regard to wasted hours, energy and strength in digging the rear wheels out of mud-holes and heavy river sand.



He had evolved a fairly speedy system, which was to put his back to the mud-guard, crouch down and grasp the rim of it just over the mired wheel with both hands, then straighten up, lifting the mired wheel out of the ground and holding while his Native Messenger packed stones or brush under it. This was not always a safe system, as was proved when he tried it on the car of the Native Commissioner, Rusapi, and snapped his rear spring, leaving him still in the mud and with a broken spring as well.

So, he ordered from America a set of "airplane" balloon tires, size 900 x 13. These tires solved the problem. Not only was he able to travel through mud and across heavy sand-rivers but with linings of "fish-scale" metal imbedded in rubber he was able to travel for hundreds of miles through thorn-bush country without punctures and was able to drive overland through wet vleis and open country to inspect demonstration plots and carry out centralization surveys, where there were no roads at all. With these tires, he was able to do work which could never have been accomplished without their use. During the dry season of 1931 he completed centralization surveys on three widely scattered Reserves: Ntabezinduna, in Matebeleland; Lower Gwelo in Midlands; and Zimutu in Southern Mashonaland, to meet the demands of the local people there who had heard about the fat cattle on Selukwe Reserve.

23. Famine Again. The growing season in 1930-31 was a bad one. Crops were very poor under ordinary Native methods, due to erratic rainfall and droughts at critical periods. During that season, there were twenty-one Agricultural Demonstrators who conducted demonstration plots for a total of 265 plotholders. A total of 835 additional Native farmers were cooperating by carrying out the teachings of the demonstrators on their own lands. The average yield on the demonstration plots was 9.6 bags per acre, while ordinary lands adjacent to them averaged 1.2 bags per acre.

Natives in many areas experienced a food shortage and in some, famine conditions resulted. The worst famine was in the arid Sabi Valley, and many hundreds of bags of famine relief grain had to be sent out by Government. As a direct result of this famine, the Chief Native Commissioner, instructed the Native Commissioner, Chipinga District, to start work at once on digging the irrigation canal from the Tanganda River, which Alvord had surveyed in September 1928. That year, an additional number of Alvord's previous students at Mount Silinda enrolled at Domboshawa to complete their training as demonstrators.

24. The Start of Community Demonstration Work. The Annual Conference for demonstrators was held in June 1931, on Selukwe Reserve, so that all demonstrators could see first hand the working out of the scheme for centralization of arable and grazing lands and report back to their own Reserves. Old Chief Nema strutted like a hero. While looking over the centralized areas, it was noted that the Sub-Chief M'Holo's people were abandoning their scattered and hidden-away huts in the bush and rocks and were building new and larger huts in neat rows along the boundary lines between arable and grazing areas. This enabled them to work their lands in one direction from the village line and allowed their cattle the other side of the village. Some had even trained their stock to stay on the grazing side of the village line and let their butter fat cattle graze both day and night without damage to growing crops.







Alvord immediately recognized the potentialities for conducting community demonstration work, including improved housing, home and village sanitation, road making, tree planting, improvement of village water supplies, grain storage and all other sorts of community improving enterprises.

This scheme was approved and a demonstrator with previous training in building and carpentry at Mount Silinda was withdrawn from the field and sent back to Domboshawa for special training in community demonstration methods. Thus was born the scheme, which later proved of greatest importance in its effect upon countrywide improvement in health, housing and living conditions of the Native people and which was later described by authorities as a "social revolution" in the life of the African.

25. Opposition from Europeans. During 1931, the ever-increasing opposition from European farmers toward agricultural demonstration work for Natives became more pronounced. Many remarked that Alvord ought to be hung. This attitude was fostered in some Districts by the Native Commissioners, who were also District Magistrates for European settlers. The opposition was especially strong in Southern Mashonaland centering on Fort Victoria. Under improved tillage methods, Natives were producing more and more maize, a crop which none of them had grown before 1928, when the first Demonstrators were located in Reserves. There was a growing apprehension among Europeans regarding Native development and its seeming conflict with European development. The logical conclusion was that the African should stick to his own crops, and that his soil should yield no food which the European could sell to him.

While conducting the centralization survey on Zimutu Reserve, near Fort Victoria, Alvord was shunned whenever he went into town, and treated as a pariah. The Superintendent of Natives for Southern Mashonaland, under pressure from the European farmers, drafted a long minute of protest, emphasizing that maize in particular was a white man's crop and that the Natives of that area had not grown it nor used it as food prior to Alvord's appointment. By teaching Natives to grow maize, the Government was robbing the white farmer of his living. This minute was submitted to the Secretary of Native Affairs thence to the Minister, then on to the office of the Colonial Secretary, then to the Director of Native Development and on to Alvord for his information and comments. Alvord's reply was that his whole system of building up and maintaining soil fertility was based on heavy application of composted kraal manure and organic farming and that maize had to be included in that rotation because, being a rank feeder, it was the only crop which could be grown safely with manure without burning during a period of extended drought.

There was also an ever-growing lack of cooperation from Native Commissioners, largely due to the fact that Alvord and his demonstrators were attached to an entirely separate department of Government under a different Minister of Cabinet.

26. The Start of Irrigation. In early August, 1931, the irrigation canal from the Tanganda River on Mutema Reserve was nearing completion. This canal, started in February, had been dug entirely by famine relief labour supervised by an European under the direction of the Native Commissioner, Chipinga. The latter addressed a minute to the Chief Native Commissioner,





asking that Alvord be requested to lay out the lands for irrigation and instruct the Native farmers on how to use the water. This Minute went the usual rounds, through the Director of Native Development to Alvord and back again over the same route and finally to the Native Commissioner, Chipinga. The latter, accompanied by Alvord, met with the Natives on the Reserve on August 10th to discuss the matter.

But no-one wanted plots. Irrigation was something new and strange. Chief Mutema was very suspicious. If they irrigated and it was found that good crops could be grown, the Government would take away the land and give it to the Europeans. Besides, Alvord had said they would plant maize as an irrigated crop, and everyone knew that maize would not grow in the hot Sabi Valley. Fortunately, a demonstrator, Zito Sigauke, who had been located there in 1929 and 1931, had ten plot-holders. These ten agreed to do a one-acre plot each under irrigation. Alvord selected a level area of fertile river-side alluvium and they started work preparing the soil at once. By the middle of September, eleven more men had agreed to take plots. Alvord came and stayed right on the job to see that they did it properly, and before the end of September the 21 one-acre plots were all thoroughly irrigated and planted to maize. This was the pilot scheme for irrigation development in the Sabi Vallue. Everyone watched it with keen interest. When harvested, in early January, it gave an average yield of  $16\frac{1}{2}$  bags per acre. The best plot yielded 21 bags. No fertilizer was used.

Seeing an abundance of good water going to waste, Alvord persuaded the plot-holders to plant beans in February from which they reaped a bumper crop. Beans had never been grown in the Valley and were a strange crop to these people. Alvord obtained some seed of Burbank Quality Wheat from Dr. Thompson at Mount Silinda, and this was planted in May on these same plots. This wheat gave an average yield of  $6\frac{1}{2}$  bags per acre. The pilot scheme for irrigation proved a great success right from the start.

27. Another member of Parliament. Meanwhile, Alvord had been travelling on his "airplane" balloon tires. During the period up to his next long leave in 1935, he wore out three sets of them. He was able to go everywhere, through mud, wet vleis and the worst of riversand and was able to do centralization surveys in areas of the highest rainfall, right through the rainy season. By the end of 1932, he had surveyed nearly 300,000 acres of Native Reserves.

These tires were responsible for his second episode with a Member of Parliament. The only way to get from the east side to the west side of the Sabi River, without a 400 mile journey around its headwaters, was to be pulled across by oxen over an old Voortrekker's crossing called "Moodie's Drift". These oxen belonged to the owner of a million-acre cattle ranch on the west bank, whose son-in-law was a Member of Parliament. The only way to get help was to pound on a Native drum to summon the oxen; the river was over a mile wide at this drift and, during the dry season, consisted of dry river-sand and several water channels with bottoms of shifting sand. After an hour or more, the oxen arrived and, in another two hours, with luck, the traveller was pulled to the other side. The charge for his service was £1.





In November, the hottest and driest month, Alvord came to the east bank from Mutema Reserve on his "airplane" tires and drove straight across the river, travelling in top gear through dry sand and in second and low through the water channels. As he came through the widest and deepest channel, near the west bank, he started honking his hooter. The Native ox-team crew came running out in great excitement. As he drove up the steep west bank and halted near their camp, they went wild, dancing and shouting "Moto ra Penga! Mtakiti! Uroyi!" (The motor car is mad! Witchcraft! Wizardry!) As Alvord started to drive on, the ox-driver ran alongside with tears in his eyes. "What shall I do? The boss counts every car that passes and I have to give him £1 for each". Alvord told him not to worry; he would stop and tell the boss that he did not use the oxen.

The ranch house was some fifteen miles from the drift. It was very, very hot in the Valley. Alvord was sweaty, dusty and very, very dry. More than ready for the usual badge of Rhodesian ranch hospitality - a cool drink or stimulating cup of tea on a shady verandah. He drew up at the front gate, walked to the front door and knocked. The door was opened by the M.P. who looked at Alvord as though he were a "poor white". Alvord introduced himself and explained that he had not used the oxen to cross Moodie's Drift. "How the devil did you get across?" "I drove across under my own power". "Nonsense, no car on earth can cross that river on its own power".

After more argument, Alvord invited him down to the gate to see the car for himself. When he saw the 900 x 13 tires and was told they travelled with 12 lbs. pressure in front and 10 lbs. pressure in the rear, he seemed satisfied and turned round and went back to the house. No Rhodesian hospitality! Only a cold shoulder! No invitation to a cool drink on his spacious, shady verandah. Alvord drove on, parched and dry to his destination in Fort Victoria, nearly 100 miles away.

28. More Famine. The growing season of 1931-32 was also a bad season, with prolonged dry spells in the middle of the growing season in December, January and February, which on some Reserves were two months in duration. There was another famine in the Sabi Valley where the only people to harvest a crop were the 21 plot-holders on the new irrigation scheme. Other areas suffered severe food shortage and, in Matabeleland, thousands of head of cattle were dying of poverty.

Destiny was helping Alvord to put over his Gospel of the Plough. On Mutema Reserve, people swarmed to the new irrigation project and an additional area of 230 acres was allotted to plot-holders and put under irrigation. As was to be expected, the difference yield between intelligent, good farming methods and the ordinary witchcraft, spirit-worship forming methods was greatest under adverse weather conditions. During that season, a total of 491 demonstration plots scattered all over Rhodesia gave an average of 13.6 bags per acre, and 789 cooperators averaged 9 bags per acre. The average yield for maize on demonstration plots in Norther Mashonaland was 21.9 bags per acre.



29. Wizardry. That year, a record crop yield was established which stood for nearly 20 years. A Chief, on Belingwe Reserve, undertook to play a trick on the demonstrator. He showed him a completely worn-out piece of land, eroded down to the subsoil and said, "You show me how to grow a good crop on that land and I will believe".

Nearby were three old abandoned cattle kraals filled with accumulated manure, which was almost pure lignin and humus. Upon Alvord's instruction, the Demonstrator put a double application of that manure on the old Chief's demonstration plot, and in April 1932, the "before harvest" meeting was held alongside it. The news of the miraculous acre of maize had spread far and wide and several hundred Native farmers from all over the Reserve attended this meeting. Alvord explained how this wonderful crop was due to the heavy application of kraal manure and to thorough cultivation which conserved soil moisture.

Just then, his glance fell upon a huge empty beer pot and a large enamel basin near a fire over which some Natives had been toasting ears of maize. "I'll show you just how the dry air takes up the water!" he said. He then had about of water poured into the large basin which he placed upon the ground in front of the crowd. Then he had two men hold the empty beer pot upside down over the fire and hold a blazing branch of wood inside of it to heat the air within. Then, while all looked on with bated breath, he put the heated pot still upside down into the basin of water. Suddenly, with an audible "swoosh" the water in the basin vanished. It had been sucked up into the pot where the hot air was lighter than the cold air outside. Group after group crowded round to see for themselves. "That is how the dry, hot sun sucks up the moisture from your lands", said Alvord. "You must keep a lid on the soil by thorough cultivation". This plot, when harvested, gave a yield of  $42\frac{1}{2}$  bags per acre. (200 lbs. per bag)

30. Too Much Rain. While drought and famine conditions existed in some parts of the country, other areas had too much rain. In January 1932, on Selukwe Reserve while engaged in the "growing season" inspection Alvord had the most harrowing of his many experiences with heavy rains and floods. In crossing a small stream his car got stuck on the steep bank with its hind wheels slipping on the slimy mud at the edge of the stream bed. Just then the rain came down in torrents. The stream started to rise rapidly. The demonstrator went to hunt oxen. Alvord and his messenger hastily unloaded the car and stacked camp kit, seat cushions, everything, on top of the bank under a tree. The water rose steadily until it covered the whole rear of the car and came over the front seat and the back half of the engine.

By the time the Demonstrator and some Native farmers arrived with a span of oxen, the fuel tank at the rear of the car was four feet under water and the water was still rising. The oxen were hitched to the car and dragged it to safety. Dubiously, Alvord removed the fuel tank cap expecting to find the tank full of water. But the vent hole in it was plugged with grease and no water had entered. Gingerly he stepped on the self-starter. The engine roared to full life. He got out of the Reserve just in time, for all rivers became flooded and the area was cut off from the outside world for several days.







31. Agriculture in Schools. During 1932, a new curriculum for Native schools was promulgated by which industrial training, including agriculture, became compulsory for every pupil, no matter what type the school. There were more than 1,400 schools and more than 100,000 pupils. enrolled and school plots on crop-rotation and vegetable growing were required in all schools in order to earn the Government grant. For the inspection and supervision of this work in the schools, a full-time organizing instructor was added to the staff of the Native Development Department. During this period a new project was started by the Agriculturist for Natives in which the agricultural demonstrators began to establish vegetable growing and tree plantations in the Reserves. That first year of the project a total of 247 Native farmers started growing vegetables and a total of 27 gum tree plantations were planted.

32. An Increased Agricultural Staff. In June 1932, after a long struggle for approval, five selected African demonstrators were appointed to posts as provincial supervisors, one for each province. In 1930, it had become evident that one man could not cope with the ever-increasing scope of the work and the appointment of an Assistant Agriculturist was asked for. This was turned down on financial grounds. Then Alvord requested that five of the best African demonstrators in the field be withdrawn and sent to Dombashawa without a salary, for a year of training to qualify them for posts as agricultural supervisors. To this the Colonial Secretary agreed, largely because it would mean the saving of five demonstrators' salaries for one year. When estimates for 1932 came up for approval, the Colonial Secretary struck the salaries for these five supervisors off the list on grounds of economy, but when he was reminded that he had approved the supervisors in 1931 and that these men had spent a full year in training at Dombashawa without pay, he relented and passed the item.

These men relieved Alvord of much of the routine inspection of the 742 demonstration plots conducted during the 1932-33 season and one of them was of great assistance in conducting centralization surveys. When the supervisors assumed duty, however, administrative officers became even more antagonistic and unwilling to cooperate, and the new men had a difficult time of it. Not only was the European staff of an entirely separate department interloping in the administration of Native Reserves, but now Africans were doing it. The antagonism extended right up to the higher authorities and in November, 1932, Alvord drafted a memorandum pointing out the difficulties arising in trying to separate development from administration and urging that he and his entire staff be transferred back to the Department of Native Affairs.



33. A Confidential Conference. In December, 1932, the Chief Native Commissioner invited Alvord to his office for a confidential conference. He asked him what provision he would like to have made on Estimates for 1933 in case a transfer were made. They discussed the situation fully. The ever-increasing scope of the work; the unlimited demand from Reserve natives all over the country for centralization surveys to be made; the need for soil survey work to ascertain the agricultural potentialities of the reserves; and the necessity for an adequate supervisory staff. Alvord asked for a European Agricultural Assistant and two European Land Inspectors with a knowledge of surveying.





#### D. AN EPOCH-MAKING ACTION.

1. The Head of a Department. The beginning of the fiscal year on April 1, 1933, marked an epoch-making event in the history of development in Native Reserves. The Agriculturist for Natives, together with his entire demonstration staff was transferred back to the Department of Native Affairs. Good relations with the administrative officers were restored and the anticipated expansion referred to by the Secretary to the Premier in his letter of 1928 had occurred in five years' time, just as he had predicted.

A sub-department was formed, designated as Vote 4/III, Development of Native Areas and Reserves. At the same time the title of Director of Native Development was transferred to the Chief Native Commissioner, who was also Secretary for Native Affairs. And, Native Education was transferred to the Department of Native Affairs. The former Director of Native Development was offered a new appointment as Director of Native Education, but he declined and left the country, becoming the second Director of Native Development to take this action. Thus, Native Administration, Native Education and Native Development were placed in one Department of Government under one Cabinet Minister, where they really should have been from the start.

2. The Question of Salary and Status. In February 1933, Government Notice No. 117 of 1933 had been issued in which all Technical Division posts of the Civil Service were listed and regraded to conform with the increased cost of living. The Senior Grade to which the Agriculturist for Natives was appointed in 1926 was raised to a starting salary of £750 per annum. In 1933, Alvord's salary was £725 per annum. This meant that a new man appointed to Senior Grade would start at a higher salary than his was after  $6\frac{1}{2}$  years of service. All of his colleagues, who were in the Senior Technical Grade with him in 1926 had been advanced in salary in 1931 and again in 1933. But, strangest of all, although he was now on Fixed Establishment, his post was not even listed in the Technical Division in the New Government Notice.

The Chief Native Commissioner put the matter forward, pointing out that Alvord's responsibilities and scope of duties had now advanced considerably beyond those of an ordinary technical assistant and recommended that the matter be put right. Back came the same old reply from the Public Services Board, "In view of the fact that Mr. Alvord is not a British subject his post is not listed and it is considered that he should remain on the grade to which he was originally appointed."

3. Carrying On. In spite of his disappointment at this lack of fair play, Alvord carried on enthusiastically with his increased responsibilities. After completing the circuit of "before-harvest" meetings throughout the country, he surveyed an irrigation canal on Zimunya Reserve to be operated cooperatively by thirty-two Native farmers. On June 1st, an Assistant Agriculturist, Mr. G. R. R. Palmer, assumed duty and supervised the construction of this canal. Mr. Palmer came over on transfer from the European Agricultural Department and through this action lost many of his friends among the European farmers.



Two Land Inspectors also assumed duty on June 1st, namely Messrs. D. de Croudace and J. Savory. The former was a mine surveyor and the latter a railway surveyor. After holding the Annual Conference for demonstrators at Dombashawa, Alvord spent two months teaching these men the technique of soil survey work, namely the mapping and classification of soils and other features of land survey, and how to proceed with centralization surveys on the Reserves. These men, during their first year on the job, mapped 786,000 acres in Native Reserves.

4. A Job for Winter Months. In 1933 Alvord decided that his primary job for the winter months should be irrigation development in the arid Sabi Valley. That winter, he extended the Mutema irrigation scheme and allotted plots for irrigation to additional natives. He also surveyed a second canal on that Reserve which would command more than 1,000 acres. He located and made a preliminary investigation of eight different possible irrigation projects and made reports on them to the Chief Native Commissioner.

His decision to make this a winter job was crystalized in November when, during the hottest time of the year, he made a preliminary survey for a canal from the Sabi, at Chibuwe on Musikivanthu Reserve. Here, with the hot tropical sun beating down on the back of his neck as he used his dumpy level, he was stricken with sunstroke. An old native man told the natives to carry Alvord out into the Sabi River, stretch him out in running water in the shade of river reeds, with just his face above the surface of the water. He lay there from midday until after sunset. They then carried him back to camp and put him into bed.

Next morning, he managed to drive thirty miles up to the Mutema canal camp. And the next day, he made it fifty miles north to Mutambara Mission, where the nurse there put him to bed. Two days later, he was able to drive the 216 miles home to Salisbury. There was no further question about it. Irrigation development in the Sabi was a job for the winter time. It was lucky for him that he had the Assistant Agriculturist to supervise the ever-growing staff of native demonstrators.

5. Model Rural Villages. In 1934, a total of 1,280 demonstration plots throughout the country gave an average yield sixteen times greater than the native lands adjacent to them. The African staff was increased by the appointment of nine new agricultural demonstrators and four new Community demonstrators. This brought the community demonstrator staff up to five, located in Reserves where centralization surveys had been completed and responsible for assisting the people during the dry winter months to lay out model rural villages and boundary lines between grazing and arable areas. They were instructed to urge as many as possible to build better houses of one, two, three, four or even more rooms and to put in proper doors and windows. All pole and mud huts were to be abolished and substituted with larger well-ventilated circular huts or houses of Kimberley brick or burned brick. This meant all-out programs of brickmaking and instruction in proper roofing for multiple-roomed houses.







The demonstrators also assisted and instructed in locating and erecting proper cattle kraals on the grazing side of the villages, well away from the residential lines, and erecting improved grain huts. During the rainy season, they had a full-time job in the planting of communal tree plantations along the arable side of the village lines, the improvement of springs and wells, kraal and village sanitation and the construction of new village roads and the improvement of existing roads.

These men made a great success of their job, right from the start. The full confidence of the native people in the Government scheme for development had been won and everywhere they were willing to cooperate.

6. Famine Again. Although rains were fairly good throughout most of the country in the season of 1933-34, there was severe drought in the arid Sabi Valley. No rain fell from January onwards. All local crops in the upper part of the Valley in the Nyanyadzi area were completely wiped out and the natives appealed to Government for famine relief grain.

The Chief Native Commissioner decided that these people would have to work for their food while digging an irrigation furrow from the Nyanyadzi River. Alvord had previously located a small area of about fifty acres on the north bank of the river which could be brought under irrigation by digging a small furrow. Word was sent to the people through the Native Commissioner. Food supplies and tools were dispatched and Alvord went down to survey the furrow and start them on the job.

Upon arrival he found that all able-bodied men had gone to seek work to earn money with which to buy food. Only women and children were left in the kraals and a few old men. These people, in an advanced state of semi-starvation, eagerly agreed to work for food. So, 26 women and three old grandfathers, working with picks and shovels, dug the main furrow to a width of three feet, a depth of eighteen inches and a length of 600 yards. Then, while Alvord and the old men and some of the women put in the weir and headgate, the rest of them cleared the lands and got them ready for planting. In early October 29 acres in one-acre plots were planted to maize. When the men returned home at the end of the year they found that their abandoned wives and children were well-fed and healthy, with more food than they could possibly buy with the money they had earned. The average yield from these 29 plots was  $14\frac{1}{2}$  bags per acre.

Meanwhile, under Alvord's direction, work was started on the large furrow on Mutema Reserve, the people working without pay for famine relief grain. A small furrow, which had been dug previously by private farmers on Mutambara Reserve, was taken over by the Government, enlarged and extended to irrigate more than 150 acres and plots were allocated to individual farmers on this project.

7. One Man's Progress. A vivid idea of what was happening to individual natives all over Rhodesia may be gleaned from the story of Vambe, who lived on Shiota Reserve, south of Salisbury. In 1928, he was a poor man, dressed in ragged, tattered clothes and living in a primitive pole and mud hut which he and his family shared with the goats



and fowls. The hut was divided into two rooms with a partition and only one outside door. The goats and fowls had to pass through the one living room to enter and leave the hut. His one wife was dressed in a ragged, greasy goat-skin drape, and she was naked from the waist up. His three children ran about naked.

When the demonstrator was located on the Reserve in 1928, Vambe became one of his first plot-holders. He had a plough, and was tilling a total of 32 acres of old, worn-out soil, almost pure sand. But his cattle kraal was belly-deep in years of accumulated, well-rotted manure. In 1929, he harvested more bags of maize from his one-acre demonstration plot than from all his other 31 acres combined. He realized immediately how foolish it was to waste his time, labor and seed in ineffective farming methods.

In November 1929, he added three more acres to the original unit, started a systematic crop rotation on four acres, with outstanding results. In 1932, the crops on this demonstration plot were so outstanding that news of it spread for a hundred miles in all directions. Native farmers travelled by foot and bicycle from distant Reserves to see it for themselves. Maize stood 12 feet high, rupoko 5 feet high and peanuts 2 feet high. That year, at the "before-harvest" meeting held alongside his plots, he told the assembled 2,300 -odd natives that never again would he scratch the soil "like a baboon for worms." He then added four more acres to the rotation and spent his full time on 8-acre, 4-course rotation, abandoning all primitive methods. He made his two wives limit their labours to a proper 4-course rotation on two acres each.

8. The First "Master Farmer". By 1934, Vambe had three wives, each with crop rotations, a farm car, two ploughs, a planter, harrows and cultivators. He was making compost and took proper care of his livestock in well-built cattle kraals, goat house and fowl houses. Alvord took the Chief Native Commissioner out to the Reserve to show him just what Vambe was doing and together they decided that Vambe should be honoured as a "Master Farmer". So, in 1934, at the "before-harvest" meeting alongside his lands, Vambe was presented with a certificate as a MASTER FARMER. Thus began the scheme for Master Farmer awards to which later an ornate badge was added to the printed certificate.

Today, Vambe is a progressive and prosperous farmer, an outstanding leader of his people, who dressed as well as any white man. He has acquired, during the years, a total of four wives and many well-fed children, all living in well-built brick houses. He owns fine herds of cattle, goats and pigs, a large wagon, a cart, ploughs, harrows, cultivators and planters. All of his many children have been or are being educated in Mission and Government schools and Vambe has raised their high tuition fees and expenses from his farming operations. Some years ago he purchased a 230-acre farm for his oldest son, who had been educated in agriculture at Dombashawa. One of his sons is now employed as an agricultural demonstrator. His story is typical of many which would be written about Master Farmers throughout the country, for today there are more than 1,200 Master Farmers on Shiota Reserve alone.





9. The Need for Markets. In spite of the extensive development in Native Agriculture during the previous eight years, there were still many Reserves where native farmers were not able to sell grain for cash. Only such farmers as Vambe, who were fairly close to the European markets in larger towns and could deliver their grain, were able to sell for cash. By 1934, European traders had established a number of "kaffir truck" stores on Reserves throughout the country, but trade with these was in kind. African farmers could buy a plough or anything else in stock by exchanging grain for it. But the price allowance for grain was very low, while the price for the goods the African bought in return was very high. Usually the kaffir truck price for grain was fifty percent below the price of grain in European centres, while the price of the goods given in exchange for the grain was fifty percent higher than in European centres. In remote Reserves, the traders would exchange only salt or "limbo" for grain.

This imposed upon the Africans a hand-to-mouth existence, under which they could scarcely progress. All over the country natives were asking with wisdom, "What is the use of adopting better methods and producing more crops when there is no market?" Alvord again emphasized in his annual report the need for a cash market for surplus crops grown by Africans as an essential to their economic development. With no income, they were low consumers, to the detriment of the whole country. They could not prosper and become self-supporting rural communities unless a market for their surplus crops could be developed.

10. A Retrogressive Step. This development of the kaffir truck trade in grain grown by Africans resulted in strong opposition from European farmers throughout the country. The feeling became so strong in 1934 that the Chief Native Commissioner was influenced and took a very retrogressive step. He ruled that the saturation point had been reached with regard to the number of agricultural demonstrators and ordered that demonstrator training at Dombashawa should be discontinued. Alvord pointed out that, allowing for those then in training, there was a total of only 60 demonstrators and, that, up to that time the leakage due to discharges, resignations and death had been about ten percent. The Chief Native Commissioner ruled then that only six men could be enrolled each year for training. Sixty demonstrators for 750,000 people living on 21,000,000 acres! The effect of this retrogressive step was that the total staff of demonstrators was increased by only six over a period of five years.

11. A Start on Cotton Growing. In 1934, Alvord persuaded demonstrators in eleven different areas which he thought suitable to plant an experimental plot to cotton. The results of this experiment were very satisfactory and clearly indicated that cotton would be a suitable crop for African farmers, provided the problems of marketing could be solved. This was the beginning of cotton growing by Africans. It gradually developed until by 1950 more than 4,000,000 lbs. were produced annually by natives and Southern Rhodesia was really on the map with regard to cotton growing.



12. Again, Salary and Status. In January 1935, Government Notice No. 22 of 1935 was issued in which Senior Grade Technical Officers in the group to which Alvord was originally appointed in 1926 were gazetted on a scale of £780 x £30 to £900 per annum. He called attention once more to the fact that his post as Agriculturist, Native Affairs Department, was not listed and received the usual reply, "Mr. Alvord is not a British subject and for that reason the post is not graded. He should remain on at the scale to which he was originally appointed". Thus, all technical officers in this Senior group went on £30 per annum increments, while Alvord remained on the old scale, already superceded twice of £600 x £25 to £800 per annum.

13 A Hurry-Up Job. Alvord had applied to go on long leave in April 1935. He had turned over the supervision of the work in Matabeleland and Midlands to the Assistant Agriculturist while he looked after all of Mashonaland. When the class of community demonstrators completed their course and were ready for appointment on January 1st, it was discovered that there was one more community demonstrator than centralized Reserves. This man had to have a place to work; and so, during January and February, 1935, right in the middle of a heavy rainy season, Alvord aided by his "airplane" balloon tires and assisted by the African supervisor and the new community demonstrator, made a centralization survey of Seki Reserve, near Salisbury, which totalled 83,000 acres. Taking advantage of the long summer days, they worked from 5:30 a.m. to 6:30 p.m., completed the entire area and laid out several model rural villages. Then, after going through with a month of daily "before - harvest" meetings in demonstration centres during March and April, he left on the 23rd April with his wife and five children for the United States on a period of six months' leave.

14. A Broad Outlook. Upon his arrival in New York City, Alvord called upon Dr. H. Reisner, Executive Secretary, Agricultural Missions, Inc., who, together with Dr. Jesse Jones of the Phelps-Stokes Foundation, made him a liberal travelling grant to enable him to make a first-hand study of agricultural extension work for negroes in the Southern States and for Indians in the Southwest. Also, to visit six negro colleges and institutes in the South and to make a complete figure 8 circuit of the United States, from coast to coast, visiting seven of the most outstanding soil conservation projects under different climatic conditions.

He bought a second-hand, 7-passenger Lincoln limousine in New York, took out the sliding glass panel back of the driver's seat and started out with his family of seven on a trip which turned out to be 13,864 miles long. He went first to Washington, D. C., where he met several of his former friends and colleagues in the U.S. Department of Agriculture, and conferred with the heads of the Departments concerning his proposed travel and study. The family then proceeded on its way.





15. Temptation. Midway through the journey, the Alvords took a break for a visit with Mrs. Alvord's two brothers, lawyers in the city of Norfolk in the fertile State of Nebraska. The younger brother showed Alvord some clippings reporting on some forty "Master Farmers" of the State, who had made a net annual income of more than \$30,000 off an average of 330 acres each.

Then they made him a very tempting offer to go in with them in a partnership to operate three fertile farms, totalling more than 600 acres, within a five-mile radius of Norfolk. These farms belonged to Mrs. Alvord, and the two brothers jointly. Alvord was to manage the business and they would be the sleeping partners. It was a perfect set-up for a combined crop production, cattle raising and beef and pork fattening business which could not fail to bring in thousands of dollars annually to all of them. It was a great temptation and had a great appeal to Alvord. He was still smarting from what he felt to be unfair discrimination on grading and salary from the Rhodesian Government. He told the brothers that he would give them an answer on his return from the circuit through the Southwest, California and the Northwest.

16. Rejection. By the time they reached Flagstaff, Arizona, he had made up his mind to resign. He would write and give the three month's notice required and arrange with his Salisbury agents to dispose of his property in Rhodesia. It would mean a good and interesting life for him and an opportunity for his children to grow up and be educated in the schools and universities of America.

Then destiny took a hand. Next day, officials of the Indian Service took him out to see one of their "control of flood-waters for irrigation" projects. There had been a very heavy rain the previous day. Flood waters from the distant mountains had been diverted and spread out fan-wise through gated contour ridges over a large area of almost level land. When they arrived at the spot the area was swarming over with naked Indians, stripped to their "G" strings, fishing driftwood out of the mud, while some, with horses and dam-scoops were levelling off the high spots which the water had missed. Their tanned, bronze skins were much the same color as those of the Bantu people of Rhodesia.

Alvord was struck with nostalgia and vividly reminded of the needs of his black people in Africa. If these red Indians had had wool on their heads instead of straight black hair, he could have sworn he was back in the arid Sabi Valley on an irrigation project. Back in Flagstaff, he told his wife and children he had changed his mind. They were going back to Rhodesia. The children were delighted. It was far too hot for them in the United States. They longed for the cool climate of the high-veld in Rhodesia. The family arrived back in Rhodesia in early November, just before the planting season.



17. A Self-Running Enterprise. Back on the job, Alvord found that things had carried on with their own momentum. Mr. G. W. Swan had been seconded from Dombashawa to act during his absence, and Alvord found that he and Palmer had done a good job of supervising the work. The 1,722 demonstration plots harvested in 1935 had given an average yield ten times better than yields on ordinary lands adjacent.

But the usual programme of winter work was at a standstill, except for the work of the Land Inspectors on soil surveys and centralization surveys. Alvord had expected to find the second canal on Mutema Reserve completed and ready for use, but the people had reaped a bumper crop and would not continue to do further work for food only on the new furrow.

The people on the small Nyanyadzi furrow had harvested a crop of beans in April and a crop of wheat in August, which when added to the maize crop reaped in January gave them a total crop of 420 bags of grain. They all set to with enthusiasm and by August 1935, the entire area of forty acres was cleared and in September it was planted.

18. A British Subject. Upon his return to Rhodesia, Alvord realized that not having British citizenship was a definite drawback to his work, even though his ancestors on both sides of the family came out of England. He had now irrevocably decided to give the rest of his life in service to the Bantu people, so the first thing he did upon his return in November was to make application for naturalization as a British subject. He received his naturalization papers about the middle of December and immediately wrote a minute to the Chief Native Commissioner regarding the matter of salary status and the grading of his post, pointing out that the only previous objection no longer existed.

The matter was submitted to the Public Services Board and back came the reply 'As Mr. Alvord's salary is at present £775 per annum, it is recommended that he be granted an increase to £780 per annum, the next step in the higher grade, from the 1st of April 1936.' This, by a £5 increase in 1936, he was placed at the beginning salary for Senior Grade Technical Officers, though he had already served as a Senior Technical Officer for ten years. The fact that all other officers with whom he was originally graded in 1926 had been regraded four times since then and that they had also been receiving annual increments of £30 for the past four years, compared with his £25, was ignored. In fact, he was four years behind in grade compared with other technical officers who joined the service with him in 1926. Government Notice No. 631 of 1936 was issued the following August, listing his post once more in the same group of officers with whom he was listed upon his original appointment ten years previously.

19. An Episode. During an inspection of demonstration plots on Maranke Reserve in January 1936, the demonstrator suddenly yelled "Nyoka!" (Snake!) Alvord saw coming straight at him a huge, banded cobra with its head about three feet off the ground. He instinctively grabbed his helmet from his head and struck the snake alongside its





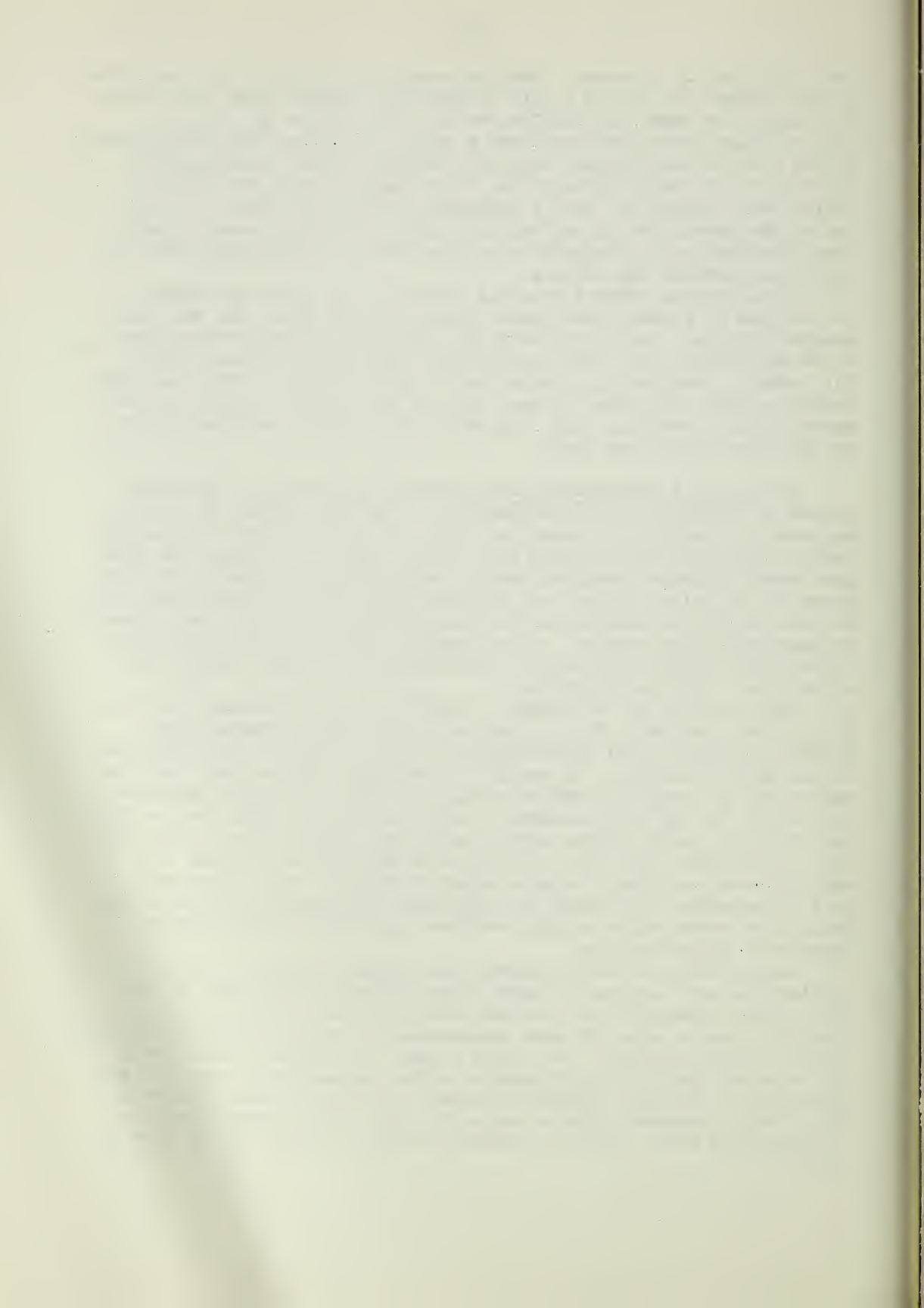
head, knocking it sideways. Simultaneously, he darted to get away from it and stubbed his toe on a tuft of grass and tumbled head over heels. He thought the snake had him for certain, but when he got to his feet he found it had vanished down a hole. Alvord sent the Demonstrator to his car for the shotgun, then with trigger cocked, he stealthily crept up to the hole. Suddenly the cobra lunged upward and Alvord pulled the trigger. The shot's momentum carried the cobra completely out of the ground and it lay writhing with a partially severed head. When stretched out it measured over nine feet of alternating bands of color from nose to tip of tail.

Local natives arrived from all directions in great excitement. One old man in a monkey-tail apron executed a war dance and sang and shouted for joy. One of his best oxen had been killed by this snake a few days before, and other cattle and a dog had also been killed. This snake, possessed by a demon, had troubled them for weeks and many sacrifices and offerings had been made to the Spirits to appease its anger, without results. Now, the white man's magic had overcome it and all were elated and happy.

20. How Soil Conservation Work Started in Rhodesia. Alvord reported to the Chief Native Commissioner on his four months of travel and study in America in connection with soil conservation work and extension work among the negroes and Indians there. He pointed out that some areas on Native Reserves were as badly eroded as some of the worst areas in the United States, and he estimated that  $1\frac{1}{2}$  million acres, or sixteen percent of arable land in Native Reserves had been badly damaged by sheet and gully erosion. He recommended the appointment of a Soil Conservation Officer for work in Native Reserves at the earliest possible date. This was approved.

The year 1936 was a landmark in the history of Rhodesia and also the African continent, for on June 1st, this officer assumed duty—probably the first Soil Conservation Officer, as such, to be appointed in the whole of Africa. He was Mr. K. MacKenzie who had had previous experience in irrigation and terracing on farms. His first assignment was to put the 150-acre Mutambara irrigation scheme, which was on sloping red soil, under contour ridges and stone pitched drops in the furrow. At the same time, he proceeded with the contour ridging of a critical area on Zimunya Reserve south of Umtali. This systematic soil conservation work under the Department of Native Agriculture was begun five years before similar work was undertaken by the European Department of Agriculture.

During the year which followed four African Erosion Control demonstrators were assigned to work under MacKenzie, and three of the agricultural demonstrators were seconded to erosion control work, so that there was a total of seven demonstrators working on eight different erosion control projects, each with a gang of laborers in his charge. This movement put Southern Rhodesia in the vanguard with regard to soil conservation. European farmers received soil conservation service in 1941. Today, overseas experts who visit this country assert that, on a comparative basis, Southern Rhodesia leads the world in this sort of work.



21. Dr. Reisner's Visit. An outstanding event of 1936 was a visit from Dr. John H. Reisner, Executive Secretary, Agricultural Missions, Inc., New York City. He was on an eight month tour of Africa, financed by a Carnegie Grant, for the purpose of making a first hand study of efforts by Governments and Missions in connection with development of rural community life and agriculture among the indigenous African people. Alvord took him on an extended tour through Reserves, showing him the agricultural and community demonstration work, centralization and irrigation development in the arid Sabi Valley. They also visited major Mission stations.

Reisner was astounded at the progress, especially in improved housing and model rural villages and the universal use of kraal manure in the lands. On the Mutema irrigation project, he had the unique experience of eating for the first time inside a native house. The house was well-built of brick, thatched with wheat straw, well-ventilated and cool, although it was October, the hottest time of the year. It was furnished with good furniture made of Mount Silinda mahogany. The demonstrator's wife, trained at Mount Silinda in domestic science, provided a tea with home made bread. The tea was served in style on a mahogany tray with milk jug and sugar bowl covered with bead-edged lace doilies. The freshly baked bread was made of home-made yeast and whole-wheat flour, ground from wheat grown on the project. Reisner eyed this dubiously and hesitantly, asked for "only about one-fourth of a slice", as he "Wasn't very hungry". He found it so delicious, with butter, peanut butter and fresh honey, that he almost finished the whole loaf. During his eight-month tour he visited a total of fourteen territories and colonies in Africa and upon his return to America, he wrote a letter stating, "Your work in Rhodesia is outstanding. I have seen nothing in all Africa that at all begins to compare with what you are doing."

22. More Irrigation Development. During the rainy season of 1935/36, no rain fell in the Sabi Valley. Crops in the whole area, except those under irrigation, were complete failures. Alvord re-organized the work on the large Mutema canal in January and hundreds of starving natives came to work on it. The main canal was two miles long, about one mile of which was around the side of a steep, stony mountain. About half a mile of this section had to be lined with concrete re-inforced with pig netting. At the top of the lands to be irrigated, the canal branched into two laterals, one 3,000 yards long and the other 1,100 yards long. From these branches a total of 30,000 yards of lateral furrows were dug for distribution over the lands. A total of 847 plots were allotted to plot-holders. In March, Alvord proceeded with "before harvest" meetings.

23. A Termite-Proof Camphouse. Because of the Sabi Valley famine it was decided to proceed with a canal from the Mvumvumu River, which Alvord had surveyed and pegged in 1934. The Native Commissioner, Milsetter, posted him a letter at the end of March saying "Don't bring along your tents because I built a fine new set of camp houses there last November."





Alvord arrived early in April and found that these camp houses had been completely eaten up by white ants. It was raining, a soft soaking drizzle. He stretched his ground sheet overhead between trees and made his bed upon the ground. His tent was 210 miles away in Salisbury. In the night he got to thinking. Surely there must be some way to build an inexpensive type of termite-proof camphouse. Then he remembered the concrete lining, reinforced with pig netting, on the new Mutema furrow. The next morning, he put a gang to work. They levelled off a raised spot of ground, nine feet wide and twelve feet long, stretched pig netting over its surface, then grouted this over with concrete made from river bed gravel, sand and cement, to a thickness of about  $1\frac{1}{2}$  inches. When this was dry he had the paper cement bags taken apart and spread over the smooth surface of this floor. Over the paper he stretched 3-foot widths of pig netting and cast the side panels for the house, each about  $1\frac{1}{2}$  inches thick, so that when stood on edge, upon the outside edges of the floor, they could be firmly tied together at the corners. Timbers of mopane poles were stood upright in the corners and alongside the doorway and tied firmly in place. Then the corner and the angles around the base of the panels were plastered with cement plaster. This made an ant-proof camphouse which termites could not enter. The three foot space around the house, above the 3-foot panels, was covered over with matting made from river reeds. This camphouse is still standing today, untouched by termites.

24. Famine and Irrigation. In 1936, the small Nyanyadzi canal on the north bank of the river fed a total of 90 people in addition to the plot-holders and their families. Other people in the valley had come to live over the winter instead of fleeing to the cold high-lands to avoid the famine. In answer to a plea from these people, it was decided to open up a big project on the south side to irrigate a very large area of flat, rich, lake-bed alluvium soil. It was here, in 1926, that Alvord had his daydream and made the prophetic statement about irrigation development in the valley.

Work on this canal started on April 1, 1937, with a gang of 230 paid native labourers, working with picks and shovels. There was then an accumulation of outstanding debts for famine relief grain amounting to more than £18,000 and many were working to pay off these debts. The canal was  $4\frac{1}{2}$  miles long, ten feet wide and three feet deep. For 300 yards it ran around the face of a solid granite kopje; the channel for it was blasted in the stone. Coronation Day was celebrated by blasting sixty great charges of dynamite at midday in this stone channel.

Alvord returned to Salisbury after Coronation Day in order to hold the 10th Annual Conference for demonstrators. Upon arrival he was astonished and gratified to learn that his name was on the King's Coronation Honours List.

25. Shooting Big Game. To feed the large labour gang working on the Nyanyadzi canal maize meal had to be purchased from millers in Umtali and delivered on the spot by Railway Motor Service. This pro-



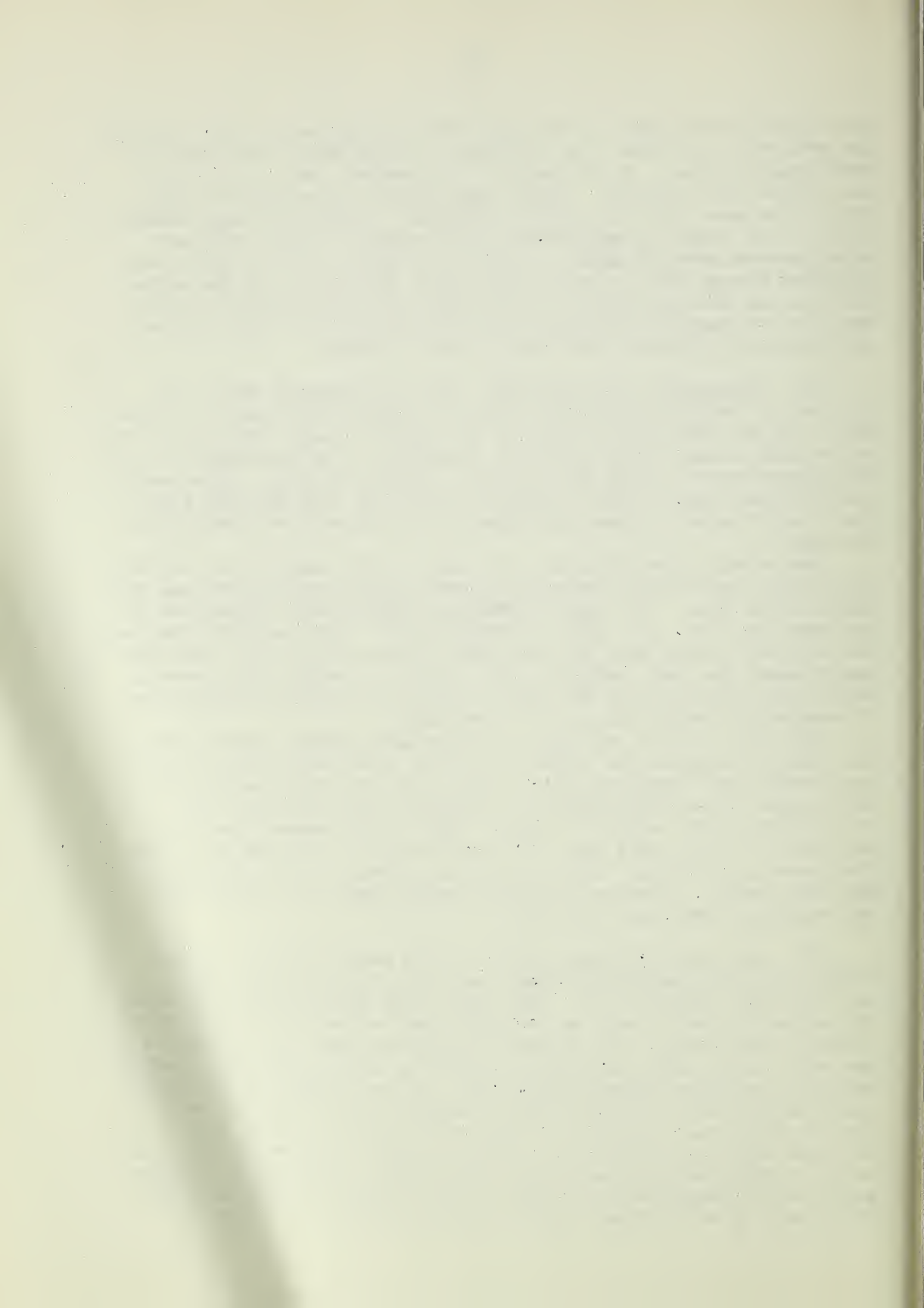
ject being located right on the main road to Chipinga and Fort Victoria. The meat ration, however, was obtained by buying cattle for slaughter from local Africans. By the end of July, however, the supply of surplus cattle was exhausted. Alvord then obtained permission to shoot game in the area until the job was finished. There were large numbers of Kudu, the large African antelope with corkscrew horns, and there were numerous herds of impala, a smaller antelope. During August and September Alvord shot 19 head of the former and several of the latter all from the driving seat of his half-ton truck, with which he hauled them back to camp for dressing, and in this way he kept the labourers well supplied with meat until the job was finished.

25a. Celebration and Gratitude. The big Nyanyadzi canal was finished by the end of September, and, on October 1st, just six months after they cut their way in through the jungle to begin work on it, the Native Commissioner of the District, assisted by the Superintendent of Mutambara Mission, opened the headgate, promptly at noon, while nearly 1,200 Africans sang "I'She Kungurira Africa" and "God Save the King". Then, they cheered in great excitement as the water wave started down the canal.

The ceremony over, they all went back to the main camp on the Chipinga-Umtali road where five head of oxen and ten bags of meal had been cooked for a feast. The orgy of feasting, dancing and singing was interrupted at 5 p.m. by a shout "Myuraya swika!" (The water has arrived). The multitude rushed down the main road to the culvert where the canal passed under the road, arriving just in time to see the first wave of muddy water approach down the canal, whipping up puffs of dry dust as it covered the bottom and crept up the sides.

With wild yells of elation men, women and children swarmed into the canal, rolling on the bottom to let the water touch them, throwing dirty water over themselves and lapping it up into their mouths with their hands. Even the mothers with babes on their backs gave the dirty water to the infants to drink. When Alvord remonstrated they replied, "O N'Kosi, when they grow old we want to tell them that they drank some of the first "Mvura yo kupona" (Water of life) which came down this canal". That was certainly looking ahead for the African, who generally lives only for today.

26. Need for Additional Staff. By the end of 1937, it became evident that the skeleton European staff of five could not possibly cope with the expanding work. The demand from the Africans on Reserves for centralization surveys was so great that at least two more Land Inspectors were needed. But the most serious need was for at least two more agricultural assistants to help with the routine inspection and direction of ordinary demonstration work. To the request for additional staff the Minister for Native Affairs replied that it was useless to ask for additional agriculturist when we already had two of them. He stated that he would have no hope of getting Parliament to agree, because it was a European Parliament with members from European constituencies and no member would be able to hold his seat if he allowed the appointment of an additional agriculturist to serve the natives.





Alvord said, 'Let's ask for the man but call him something else'. He suggested the title "Land Development Officer". A request for this officer and two Land Inspectors was approved by Parliament. The greatest need of all, however, was for African agricultural demonstrators. A total of 152 had been requested by district Native Commissioners, and the present staff totalled only 63. Fortunately, a new Chief Native Commissioner had assumed duty and the previous ruling which limited the number of demonstrators-in-training at Dombashawa had been cancelled a full class was enrolled for training. In 1938, the staff consisted of eight Europeans and 93 Africans, 9 supervisors, 64 agricultural demonstrators and 12 community demonstrators.

27. Tothill of Uganda. The highlight of 1938 was a visit from Dr. J. D. Tothill, Director of Agriculture for Uganda. He was returning from an extended tour through the Union of South Africa, Zululand, Basutoland and Bechuanaland, where he had been seeing the efforts by Government in the agricultural development of the Natives. He had only four days in Rhodesia. Alvord took him on a swift trip involving more than 500 miles by car. He met him in Gwelo at the train, then drove through Selukwe Reserve from north to south, where long rows of improved houses formed a boundary line between arable and grazing areas. It was October and native farmers everywhere were swarming over the lands, heaping composted kraal manure which they carried in carts, wooden sleighs, baskets on donkey back or baskets on their heads.

They travelled south through Shabani to Zimutu Reserve, North of Fort Victoria, where they saw similar scenes and another development as well. The women, instead of walking three or four miles to the rivers carrying pots on their heads, were walking only a few steps to draw water from wells which had been dug alongside the village. From here, they drove to the Sabi Valley for a look at irrigation development, then north to Umtali and back to Salisbury through the Shiota Reserve, where Tothill met Vambe, the first Master Farmer.

After his return to Uganda, Tothill wrote, 'You are far ahead of any other country or colony in Africa ..... you are approaching the problem in an unusual manner. The methods you have adopted are unique and quite different from the methods being adopted elsewhere. However, there is no question that you are obtaining very substantial results from a minimum of expenditure .... If anyone had asked me before my visit to Rhodesia if I thought it would ever be possible to teach the native farmer to spread his kraal manure on his lands, I would have said it might be done in 100 years time. Yet I find you in Rhodesia have taught them to apply manure throughout the country in less than ten years time. Later, the Uganda Government sent their Senior Agricultural Officer (Education Department) down by airplane to make a study.

28. A School on Wheels. Parliament had passed a Land Apportionment Act in 1930, which took effect on April 1, 1931. In that Act, an area of about 8,000,000 acres of Crown Lands had been set aside as native areas to be cut up into farms and sold to natives. By 1938, a total of 552 natives had bought farms, averaging about 350 acres each, but these far-



mers had been given no guidance in better farming methods.

Alvord thought of his two-day visit, during his American tour in 1935, with the famous Booker T. Washington School on Wheels which operated from Tuskegee Institute. When an African supervisor was promoted to the post of agricultural instructor for these farmers, he was put in charge of a school on wheels copies after the Tuskegee model in America. His duty was to spend full time on tour and lectures in the native areas, advising and assisting native farm owners in good farming practices. This school on wheels was successful from the start.

29. Classes in Building. In early 1939, the Government Medical Director said in his annual report, "The pole and dagga hut is a breeding ground for sickness and death". Alvord took advantage of this statement to evolve a scheme to expedite the erection of improved houses in brick on the native reserves. The scheme was approved. It was to have community demonstrators enrol men and youths in classes in building and give them instruction in brick making, building lay-out, foundation stonework, ant-and damp-proofing, bricklaying, roof construction, thatching, plastering and laying floors in cement. Alvord designed a number of plans and issued instructions on a variety of house plans especially adapted to native conditions and thatching grass.

It was a two year course. The first year pupils were helpers and learners. The second year they became full fledged builders, actually building houses for people in the model rural villages. The house owner had to supply food and pay a nominal rate of £1 per room. All pupils who satisfactorily completed the two-year course in building were issued with a "Builder's Certificate". The scheme was highly successful. Men who gained builders' certificates became building contractors. Many went out contracting tobacco barns and farm buildings for Europeans and hundreds of thousands of improved houses were built for natives in the reserves. Thus was developed an industry other than agriculture, to relieve the ever increasing pressure on the land.

30. A Natural Resources Board. Early in 1939 a Natural Resources Board was created by Government. Its primary duty was to guide public opinion in the conservation and preservation of natural resources throughout the country. This Board promulgated a Natural Resources Act, which later became the pattern for other countries. In May, 1939, Alvord took this Board on tour through the native areas and reserves. A guest member on this tour was Dr. Pole-Evans, the noted pasture expert from the Union of South Africa. He and Alvord had many friendly arguments about permanent tillage versus ley farming. He said that Alvord's scheme for permanent arable areas and permanent grazing areas was "fraught with grave danger". He asserted that every land should go back to grass every few years or it would lose its productivity and be ruined.

31. Unsound Criticism. After the members of the Board had really seen what had been accomplished on reserves, this criticism was not taken very seriously. The evident soundness of building up and maintaining soil fertility by the liberal application of organic matter in systematic crop rotations was clear even to the most casual observer. The original





demonstration plots at Mount Silinda had been under continuous tillage for eighteen years with no diminishing in the bumper yields and many plots on reserves had been cropped continuously by Master Farmers and cooperators for up to twelve years, maintaining crop yields more than double the yields obtained from virgin grassland. More and more native farmers were eagerly becoming plot-holders and followers of the demonstrators. The only deterrent was the lack of a proper ready cash market for their surplus maize and other crops. Then, without much warning, an event occurred which changed the status of these native farmers almost overnight.



## E. A WORLD AT WAR.

1. A Depleted Staff. In September 1939 war was declared. Rhodesia was one of the first countries to take action, for the Rhodesia Air Squadron set off for North Africa on that very day. Able-bodied men all over the country were joining the service, including all the younger men on Alvord's staff. Early in 1939 his staff had been increased to ten by the appointment of two additional land inspectors. Nine months later the Assistant Agriculturist and three land inspectors entered war service. To the end of the war the work was done by a skeleton European staff.

Meanwhile the African staff of agricultural demonstrators increased from 65 to 99 and the community demonstrators from 19 to 63. Meanwhile native farmers were being urged to increase production of crops and cattle. The attitude of the members of Parliament and their European constituencies completely changed almost overnight.

2. At Last! A Market! For the first time, maize grown by natives was admitted into the European farmers' maize pools and became saleable through the Maize Control Board at a price comparable to prices paid to European farmers. The marketing of native cattle was organized and good prices were paid on a weight and grade basis. As Southern Rhodesia became one of the most important Royal Air Force training centres, it became impossible for the European farmers to meet the increasing local need for food. The Department of Native Agriculture was instructed to intensify its propaganda to encourage native farmers everywhere to produce not only more food crops and beef but also peanuts for oil and cotton for textiles.

3. War Emergency Food Production. In 1940, money was voted for the construction of a big canal from the Devuli River in the Sabi Valley to irrigate a large area of flat riverside alluvium soil near Birchenough Bridge across the Sabi Valley. But this would take at least two years. It was decided to spend the money on two large engines and pumping plants on the bank of the Sabi, at Chibuwe, where Alvord got his sunstroke in 1934. This was intended for war emergency food production, but turned out to be something of a white elephant because water was lost by seepage in the area adjacent to the river. The river itself was higher than the land away from it, and once the water was lifted onto the bank by pumping it was carried away by gravity to irrigate the lands. Because of the loss by seepage near the river bank it was impossible to irrigate up to 80 acres only. Later, after much money had been spent on brick and cement linings for the main and lateral furrows, this project was extended.

A concentrated drive was made by the 66 agricultural demonstrators then in service to induce farmers to increase the production of all crops. The price paid for native crops was almost doubled over the previous year, and native farmers everywhere were begging to be taken on as plot-holders. To meet this demand many more were accepted than the demonstrators were able to supervise. The total number of plots in





1940 was 5,619, which gave an average of 85 plots to each demonstrator.

In 1940 also the first forestry demonstrator, as such, was appointed for full-time service to assist in establishing tree plantations.

4. Benefits Realized. In 1941, after an uphill battle of fifteen years, the benefits of this valuable work among the African population became fully realized by the authorities. It was recognized from definite visible results that this work was putting an end to destructive shifting tillage and creating a permanent native agriculture, improved livestock, better grazing, decrease in soil erosion, better crops, decrease in the area under tillage, a decided increase in natural timber on the reserves, and the stabilization of native life on a higher social level. The contributions of the agricultural and community demonstrators increased in 1941 to 74 and 29 respectively were given due credit. The community demonstrators were working 29 reserves, totalling 6,000,000 acres, all of which had been centralized into arable and grazing lands. The large classes in building conducted by each of these demonstrators were resulting in thousands of improved houses. In fact, since the first community demonstrator had been located on Selukwe Reserve seven years previously a total of 1,890 model rural villages had been laid out, 35,021 improved houses built, 31,113 improved grain storage huts erected, 195 brick school houses built, 233 water supplies improved, 281 communal tree plantations established and 182 miles of village roads graded - all under the supervision of these demonstrators.

5. Floods in the Sabi Valley. During the rainy season of 1940-41 the four rain gauges in the Sabi Valley measured 6 to 8 inches. Crops on all lands not irrigated were complete failures. This year, however, there was no famine in the Valley for more than 8,000 bags of grain had been grown on the irrigation projects and there was enough to feed everyone. For this reason more and more people were begging for plots under irrigation. During the winter of 1941 Alvord extended the Nyanyadzi main furrow for  $2\frac{1}{2}$  miles and the Mvumvumu furrow for 2 miles so as to command all the lands that could be irrigated on these two projects.

Then came the rainy season of 1941-42. And what a rainy season it was! The rain came down in torrents, bringing the greatest floods in living memory of the people living in the Valley. In one night one of the rain gauges recorded a fall of 13 inches. Huge vertical gashes were washed down the slopes of mountains, carrying down millions of tons of soil and rubble to be deposited in the Valley. Five large reinforced concrete bridges across rivers were ripped out by floating trees and debris. The small Nyanyadzi canal on the north bank was completely destroyed and the course of the river changed, the line of the canal becoming the main channel of the river. Two control of flood waters for irrigation projects were also completely destroyed. The weir of the large canal on Mutema Reserve was washed away and the river bed at that point dropped eight feet. The dry season of 1942 was spent largely in costly repair work.



6. Tightening Up. One important development of 1942 which proved beneficial to the work, was a tightening up on the number of demonstration plots conducted by each Demonstrator. In 1941 there was a total of 6,929 official demonstration plots and some demonstrators had 200 to 300 or more, far too many to supervise properly. The average yields from plots with inadequate supervision were less than half those from plots where the demonstrator could give proper direction. Thus, many so-called demonstration plots were not good demonstrations of better farming.

A rule was made, therefore, limiting each demonstrator to a total of 16 plot-holders. Since each plot-holder had four or five plots in a systematic crop rotation, this meant that the demonstrator would have a total of 64 to 80 plots to supervise. All other native farmers who wished to carry on with plots under the advice of the demonstrator were listed as cooperators. Thus, the number of official demonstration plots decreased from 6,929 in 1941 to 1,898 in 1942. The demonstrators now had more time for advisory work and for directing cropping systems in the ever-increasing lands protected by soil conservation works. By this time there were twenty-three labour gangs working on twenty-two reserves on the full-time construction of soil conservation works. Under the new scheme, the total number of cooperators and master farmers increased more rapidly. All of them practised systematic crop rotation on their lands.

7. Community Improvement Enterprises. In 1942, there was a marked increase of interest in all sorts of community improvement enterprises. Organized agricultural shows, combined with sports meetings were held in all the centralized reserves. There was inter-village competition in football and other sports, and also in village improvement and sanitation with cups and shields as prizes. The authorities recognized this development as a social revolution.

8. Better Houses for the People. A special annual conference for community demonstrators was held during 1942 in the Nyanyadzi irrigation project in order to provide tuition in the erection of various types of model multiple-roomed houses which could be thatched to a peak in the same manner as the traditional hut. Increasing numbers now wanted multi-roomed houses and were copying the style of European houses, but they were having great difficulty in thatching hips, valleys and ridges to make them leak-proof. Alvord designed seven different styles of house which had no hips, valleys or ridges and one of each type was erected at the conference along one street of Nyanyadzi village. These were all thatched with wheat straw, and they stand today as monuments of good housing for Africans. Each demonstrator took home a folder of house plans and, during the following years, hundreds of these houses were built by the demonstrators and their building classes on the Reserves.

A separate conference was held for agricultural demonstrators at Msengezi Experiment Farm, at which practical instruction was given on the two-kraal system of making compost. A large two-yarded cattle kraal was erected by the demonstrators to give them practical experience in building dry-pack stone cattle kraals.





9. Cattle Breeding Stations. In 1942 was established the first "Sanga" cattle-breeding station. After many years of trial and error in attempts to cross exotic breeds of European cattle with the indigenous native cattle, it was finally decided that the best cattle for the Africans were their own Sanga cattle, descended through thousands of years from the crossing of the ancient Hamitic longhorns of Upper Egypt with the Semitic lateral-horned Zebu, some of which came into Egypt with the Children of Israel. Their chief virtue is their hardiness which enabled them to resist disease and endure African climatic conditions as few European breeds could do. A herd of twenty-five cows and one bull was established at the Msengezi Experiment Farm in Northern Mashonaland, and a herd of twenty-three cows and two bulls was established at Makaholi Experiment Farm in Southern Mashonaland. An intensive programme was started to induce natives to improve their own herds so that they could meet the requirements of an expanding trade in beef cattle.

10. Organized Marketing. The outstanding achievement of 1943 was the organization of marketing on the irrigation projects in the Sabi Valley. By this time the population in the valley had increased by over 3,000 percent, and these people were producing a very large surplus of grain from their irrigated plots. More than 10,000 bags of grain were grown on six different projects. There was a phenomenal development in the production of sunnhemp seed for sale to European farmers to plant as a green manure crop. All irrigated lands were under compulsory crop rotation and every fourth crop off each plot had to be a legume crop. In 1941 a successful attempt was made to get the plot-holders to substitute sunnhemp for beans in the rotation, and in two years the production of sunnhemp seed had increased to more than 600 bags. Marketing was organized right on the spot, and under this scheme in 1943 a total of 1,834 bags of maize, 549 bags of sunnhemp seed, 427 bags of wheat and 110 bags of beans were sold by the plot-holders. Prosperity had really come to the Valley.

11. Pasture Improvement. On the Msengezi Experiment Farm where the cattle breeding station had been established in 1942 the timber growth was so dense that little grass for grazing existed under the trees. As a result, some cattle in the breeding herd died of poverty. It was decided that if the farm was to be usable as a breeding station the trees and bush would have to be removed. A large scale land-clearing operation was subsequently carried out in which demonstrators took part during their annual conference of 1943. The results were a revelation. With little or no grass in 1943 before clearing, the farm became a well-grassed pasture land with enough grass to cut for hay within two years. Here was visible evidence for Alvord's contention since 1936 that development work of great importance on the Reserves was to thin out the bush and trees so as to get a good cover of grass on the ground and thereby provide better grazing for cattle and a natural erosion control.

12. Trees or Grass? Unfortunately, public opinion in Southern Rhodesia was cursed by a disastrous tree conservation complex. During



the long period of years when herds of native-owned cattle increased yearly, this complex resulted in irreparable loss. It was the obsession of officials that all trees must be preserved. No consideration was given to proper land utilization.

Alvord issued a warning in 1936 pointing out that the natural plant cover over most of Rhodesia was woodland, that in this woodland the ground cover of grass was sparse, that the increasing native herds were destroying even this scanty grass cover, trampling down the soil and cutting it up with their feet. When the rains came at the end of the long dry season the inevitable result was a great loss of soil by erosion and of rain-water and the drying up of springs, rivers and wells. He pointed out that the grassland potential of the country was very great, that our chief problem was to replace woodlands by good quality grassland in a balanced system of crop rotation and that woodlands, wherever possible, must be thinned out to provide an open park-like structure which would promote a dense grass cover both for better grazing and for holding the soil together.

He felt like a prophet crying in the wilderness. This pasture improvement project at Msengezi proved his point, but with an unsympathetic Head of Department he could get no further. The Head of the Forestry Department also advocated the preservation of all trees. And even the Natural Resources Board was against him. They all wanted trees to be preserved, regardless.

13. The NRB's Authority. The Africans have the Natural Resources Board to thank for the most important step taken by Government in the agricultural development of the natives. In 1943, after a tour of the whole country during which they saw the excessive damage being done by overgrazing of cattle and by uncontrolled misguided tillage, members of the Board demanded the formation of an adequate organization to cope with the increasing destruction. The number of cattle owned by natives at this time was more than 1,824,000 head, and there had been a similar increase in the number of goats and sheep. In spite of the efforts of the limited staff the total number of plot-holders, master farmers, cooperators and followers of the agricultural demonstrators represented only about six percent of the native farmers living within native areas and Reserves.

The Natural Resources Board requested that the heads of the departments concerned meet to draft an outline for an adequate organization. The Chief Native Commissioner, the Director of Native Lands, who had to do with the Native Land Board, and the surveying and sale of farms to natives, and the Agriculturist for natives met, but could not agree. They were then instructed to draw up individual schemes for the organization they considered best able to cope with the work. In December 1943 a meeting was held with the Natural Resources Board in the Prime Minister's office, with Ministers and Heads of all departments concerned, including the European Department of Agriculture. At this meeting, the scheme drafted by the Agriculturist for Natives was adopted and instructions were issued to the Chief Native Commissioner to make provision on Estimates for the next fiscal year, beginning April 1, 1944, for the creation of this new department.





14. A Department of Native Agriculture. The big event in the year 1944 was the creation of a new Department, called the Department of Native Agriculture. The post of Director of Native Agriculture was created and placed in Senior Professional Officers' Grade II, then later raised to Grade I, the highest Professional Grade in the Service, and Alvord was promoted to that post. The new organization had a Head Office group of senior professional and technical officers, five provincial technical groups, each consisting of an agriculturist, and animal husbandry officer, a soil conservation officer and a land inspector located in the principal city of each province, and a large number of district land development officers, each attached to the office of the district or sub-district administrative officers, and coming under the provincial technical block for professional and technical direction.

These land development officers were, ipso facto, the soil conservation officers of the district, and took charge as well of all rural development work and the supervision of the various types of African demonstrators. There were to be an African supervisor for each district, and five types of demonstrators, namely, agricultural, community, livestock, forestry and soil conservation and irrigation demonstrators. In 1944, the European staff was increased from ten to thirty officers, and the African staff from 151 to 219.

15. Extension Work to Farm Owners. By 1944 a total of 1,785 natives had purchased farms in the native areas. The only contact these farm owners had with the Agriculturist for Natives was through the school on wheels established in 1938 and the African agricultural instructor in charge of it. With the creation of the new Department of Native Agriculture two additional agricultural instructors were appointed to work full-time in extension work among these farm owners and agricultural development work in the purchase areas was put under the supervision of the district land development officer. Agricultural demonstrators were appointed to work among these farm owners.

16. Outstanding Developments. Two outstanding developments took place in 1944 which were later copied in other areas. One of these occurred in Masembura Reserve, where the Assistant Native Commissioner had, over a period of three years, induced several hundred native farmers, occupying land protected by contour ridges and storm drains, to put all of their lands under systematic crop rotations, directed by the agricultural demonstrator. For this accomplishment, along with other worthy work, he was on the King's Birthday Honours List and decorated as an MBE.

The other outstanding development was on Shiota Reserve, where the African agricultural supervisor, with three demonstrators under him, organized his Master Farmers into group leaders to direct and supervise plot-holders and cooperators in better farming methods, the different groups competed for a shield. This was an emergency stop-gap for the shortage in demonstrators.

17. More Cattle Breeding Stations. The two original cattle breeding stations, established in 1942, gave such promising results, and the need for increased improvement of the indigenous native cattle be-



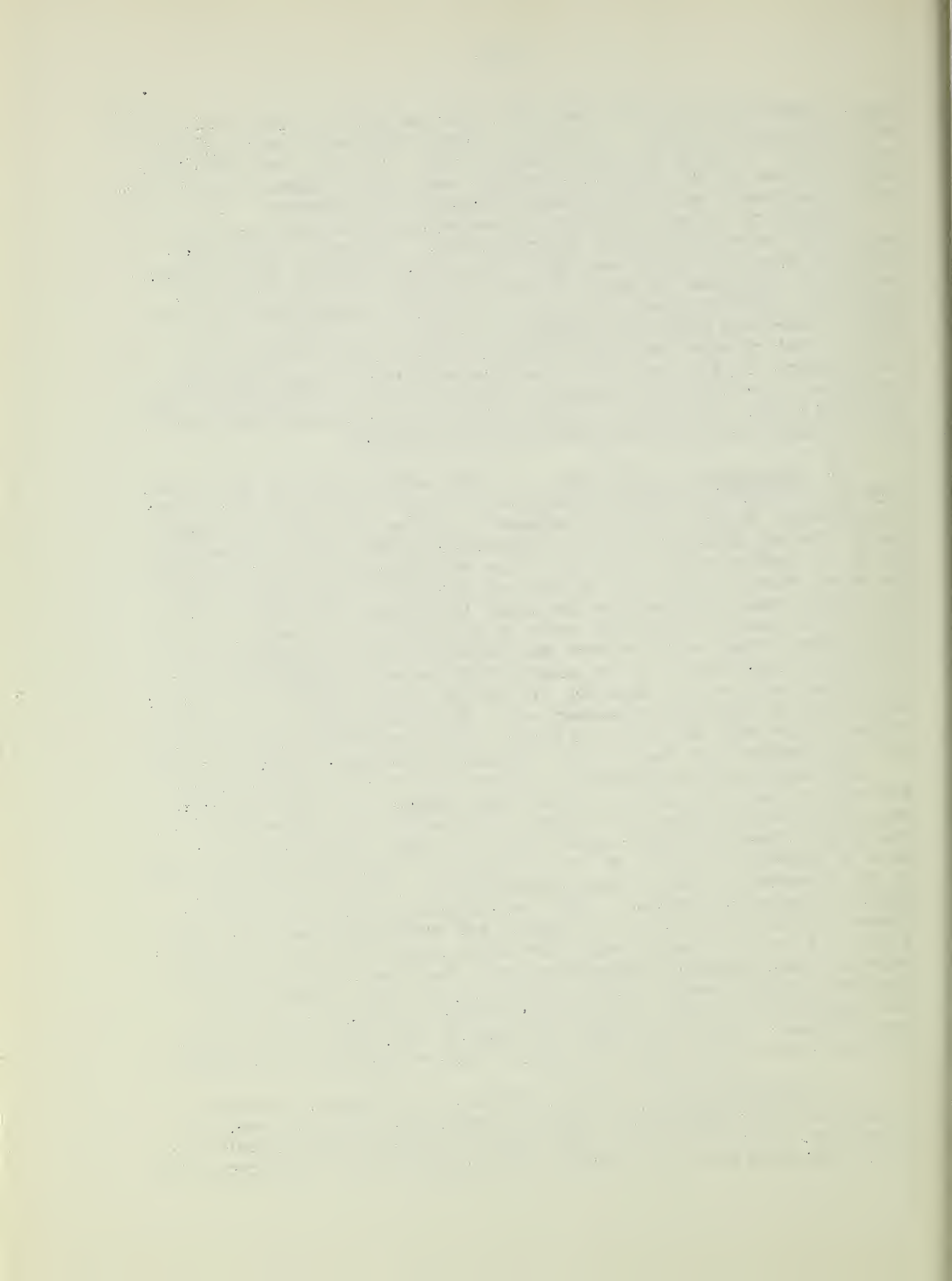
came so great that two more small herd stations and one large herd station were established in 1944. In 1945 five more large herd stations were established, bringing the total number to ten. By this time there were three European animal husbandry officers, assisted by three African live-stock supervisors and eight African livestock demonstrators.

Certain of the most heavily overstocked reserves were specified for compulsory destocking and all agriculturists, livestock officers and land development officers were appointed culling officers and a general propaganda programme was begun by these officers. Cattle sales were organized, inferior stock was culled out and, in overstocked areas, the surplus stock was marked for disposal by sales or slaughter. During 1945 a total of more than 290,000 head of cattle were disposed of in this manner. In this year also, the European staff of the Department of Native Agriculture was increased from 30 to 44, and the African staff from 219 to 311. This was a period of rapid expansion and development in all phases of rural development work for Africans.

18. Farm Carts for Africans. In 1945, after trying in vain since 1938 to get private firms to produce a low-priced substantial farm cart for Africans, Alvord proposed a scheme to produce the carts departmentally. He had discovered that by diverting the main canal at Nyanyadzi for a few hundred yards, the entire flow of water could be dropped down the steep face of a kopje for a vertical fall of 70 feet, put through a turbine and then continue down the canal to irrigate the lands. The flow of the water in the canal would be sufficient to generate up to 60 horse power, which would be more than ample to operate a sawmill and woodworking machinery. In the neighborhood was an abundance of suitable trees, such as pod-mahogany, for sawing up into timber. Alvord's scheme was to import the necessary steel wheels and axles, saw up the timber on the spot and build the carts, using trained African carpenters and wood-workers, and then to sell the carts to African farmers at cost.

Although European cart-makers catered only to the European trade and sold at such high prices, few African farmers could ever hope to raise the purchase price, the scheme was regarded with disfavour until the Natural Resources Board heard about it. They insisted that it must be adopted as a means to end the terrific damage to roads and lands in the reserves, caused by common native sleds, crude affairs which greatly accelerated erosion. With the scheme approved, an order was placed for the turbine, piping, sawmill and woodworking machinery, and Alvord got busy at once to select the site, survey the furrow line and carry out the necessary preliminary work. The canal was dug, the site for the factory cleared, and buildings were erected in readiness for the installation of the turbine and machinery as soon as it arrived from overseas. Thus, a new item was added to the vote of the Director of Native Agriculture under the heading "Native Industries Development".

19. Faulkner's Visit. During 1945 Dr. D. E. Faulkner, Director of Livestock and Agricultural Services, Swaziland, with long years of experience in the British Colonial Service in various African colonies, came to Rhodesia on a study tour of the methods used in the agricultural

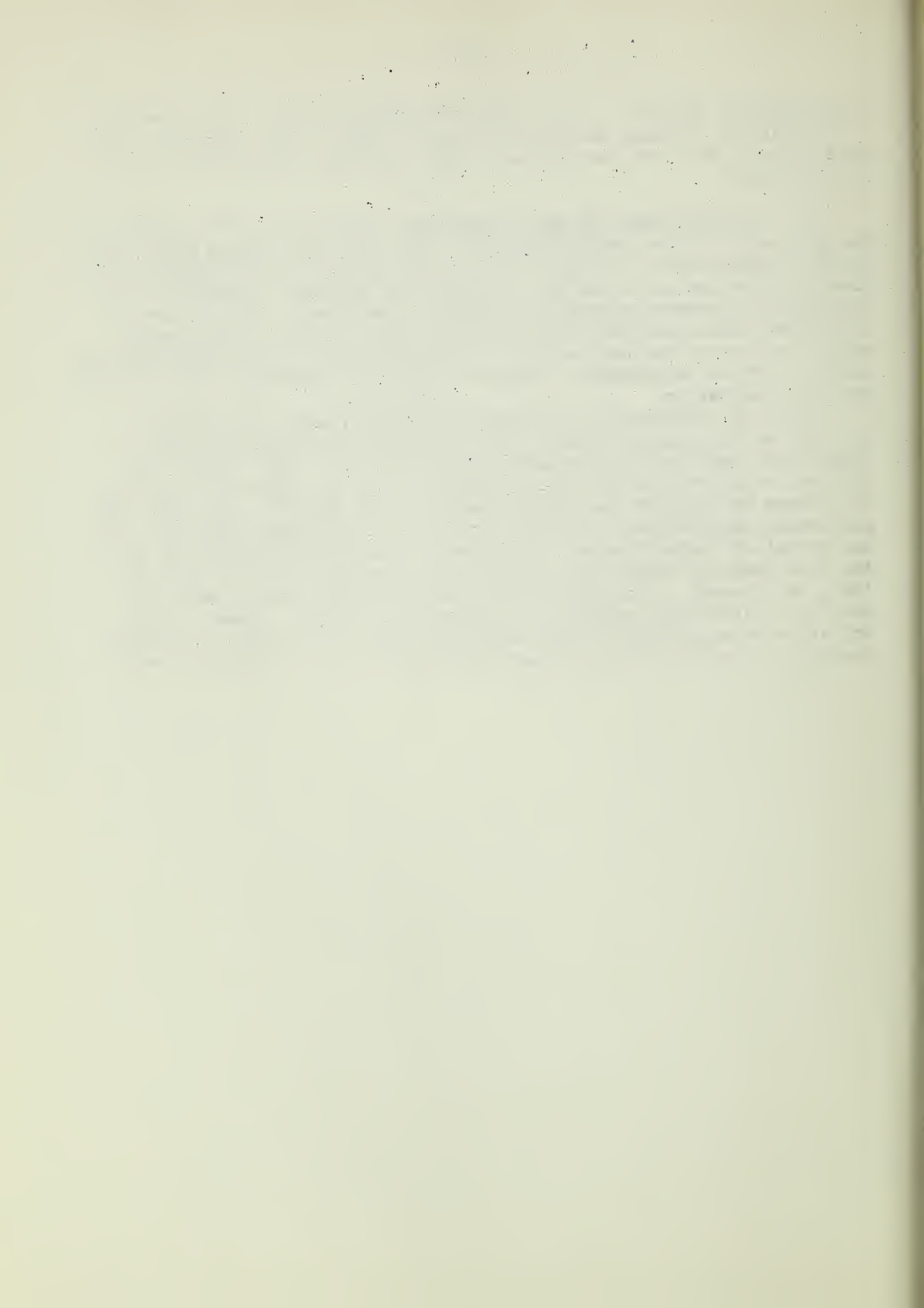




instruction of natives. In his published report he said, "As a result of my visit to Southern Rhodesia, however, I came to the conclusion that more is being done for the native in that territory than anywhere else in all Africa".

20. Helping Those Who Help Themselves. In August, 1945, an article was published in "The Reader's Digest" under the title "Hatch Helps Those Who Help Themselves". It told how, in Washington, reconstruction experts from all over the world had met to thresh out problems of raising living standards of poverty-stricken rural masses everywhere. At this meeting D. Spencer Hatch took the floor and described a scheme he had started among the Mexican Indians in 1941, it included agricultural demonstration work, livestock improvement, better housing, improvement of water supplies and home sanitation.

It is an interesting coincidence that twenty-one years previously, in 1924, an illustrated booklet was published by the American Board in Boston entitled "Helping the Heathen Help Himself". That booklet was written by an Agricultural Missionary working in Southern Rhodesia and the scheme he outlined was almost identical with Hatch's. In 1945, that missionary was Director of Native Agriculture in Southern Rhodesia, and the so-called "Hatch Scheme", pronounced by the Washington experts to be the best possible scheme and employed in a remote valley in Mexico in 1941, was started in Rhodesia in 1921 and had, with several additions, been in country-wide operation in Rhodesia since 1927. Those "reconstruction experts from all over the world" had only to come to Southern Rhodesia to see their approved scheme carried out on a national basis.



## F. EXPANSION AND CONSOLIDATION.

1. Agricultural Training for Ex-Servicemen. The war was now ended. The Southern Rhodesia Parliament voted that free training in agriculture should be offered to all returned European servicemen. Later it was decided that the same privilege should be given to African ex-servicemen. The Director of Native Agriculture was instructed to establish training centres at each of his four Native Agriculture Experimental Farms. He proposed that permanent buildings should be erected so that after the ex servicemen were trained they could be converted into Schools of Agriculture where any African man, regardless of previous education could be given practical training in good farming methods, especially applicants for farms in the native purchase areas. Upon approval the Director of Native Agriculture designed the classrooms and dormitories and the buildings were erected by selected community demonstrators and native builders who had been trained in the demonstrator's classes. These four schools when completed were staffed by promoting African agricultural supervisors to posts as agricultural instructors, two for each school. A total of 84 ex-servicemen were enrolled for agricultural Training.

2. Committee on Agricultural Development and Production. The war was followed by a boom in agricultural produce. In 1946 a Standing Committee on agricultural development and production was appointed. This was a joint committee representing both native and European agriculture and its duty was to discuss and investigate ways and means to increase agricultural production by both African and European farmers. The Chief Native Commissioner, two members of his administrative staff and the Director of Native Agriculture represented the African side and a like number of high officials of the European Department of Agriculture represented the European side. Through the deliberations and findings of this committee the full importance of native agriculture in the future economic development of the country was realized fully for the first time.

One of the important recommendations was the establishment of the Marketing Branch of the Native Affairs Department. One of the younger administrative officers in the Native Department was sent on a tour to study marketing conditions in both West and East Africa and the Congo. During 1946 the Committee drafted a "Five Year Plan for Agricultural Production" and made recommendations regarding its application to all sorts of crops and livestock.

3. Building Staff Houses. A real bottleneck in building up the new organization for Native Agriculture was the lack of housing for staff, especially European staff. The young African demonstrator, just out of school, could arrange to live in a hut until he was able to build himself a better house, but the European technical man had to have a proper house to live in. There was a shortage of building materials and no organization to build the houses anyway. As a result, head offices in the larger centres where houses were available were





built up to full strength. But the number of land development officers who were the key men of the organization was limited to the number of houses that could be found.

The Government Public Works Department was swamped with a backlog of building for various Government departments. The native engineering department was swamped in erecting houses in the native village settlements of the urban areas. And, most serious of all, no roof timbers were available. Yet houses had to have roofing timber. Faced with this dilemma, Alvord designed an L-shaped house with spacious verandahs which could be built without rafters, using only straight gumpoles for ridge and rafter plates, and ten foot sheets of corrugated asbestos-cement roofing. He proposed that these houses be built by his own Department, using community demonstrators and native builders. Mr. V. R. I. Lewis was now senior land inspector. He was also a trained builder and with Lewis and Alvord laying out the houses and supervising their construction a large number were built during 1947 and 1948 and the European staff was increased to 78, including 50 land development officers.

4. A Boost in Cotton Growing. An outstanding development in 1947 was brought about by the land development officer of Hartley district in connection with his drive to popularize cotton as a crop rotation cash crop on Mondoro Reserve where cotton-growing by plot-holders only had continued since Alvord introduced it in 1935. He increased the number of cotton-growers in that reserve from 47 in 1946 to 108 in 1947. These growers received more than £1,200 for their unginned cotton. Two years later the number of cotton growers on that Reserve had increased to 1,133 who received more than £30,000 for the crop.

5. The Royal Tour. The outstanding event of 1947 was the visit of the Royal family in April. At Easter time the King decided to take a day off from official duties, and on that day the Chief Pressman of the tour requested that a number of the pressmen be taken out into a native reserve to see something of the work being done for Africans, they had heard the fame of the work while in the Union of South Africa. Alvord took three carloads of pressmen out into Chikwakwa Reserve. The crops on the demonstration plots and on the Master Farmers' and cooperators' lands were at their best, fully grown, but still a dark green, with full plump ears. Crops on ordinary native lands, however, were stunted and yellowish green in color.

What impressed the pressmen most, however, were the fine brick houses in model rural villages. The chief Pressman asked to see one of the primitive type pole-and-dagga huts in common use before the advent of improved housing. But all the Africans shook their heads. "There is not one left in the entire reserve", explained the Agricultural Supervisor. Noting the disappointment on the Chief Pressman's face, he continued, "But sir, if you really want to see one you will be able to do so as we pass through the European farms on the way back to Salisbury." With regard to improved housing, Chikwakwa Reserve was typical of many throughout the country, for by that time a total of more than 110,900 improved houses had been erected by the community demonstrators and their building classes. In addition there were some 65,000 improved grain huts and 965 churches and school buildings.



6. A World Expert's Views. The year 1947 was a landmark in the history of Southern Rhodesia because of a visit by Dr. William Davies, Director of Grasslands Improvement, Stratford on Avon, England. Alvord accompanied Dr. Davies on an inspection of some of the overstocked reserves where he was able to show the problems first-hand. He outlined to him his views with regard to the necessary steps in pasture improvement and related his efforts to carry them out against the continued opposition of administrative officers, the Forestry Department and the Natural Resources Board since 1936, when he first proposed the steps to be taken.

At the end of Dr. Davies' visit he submitted a report to the Minister of Agriculture and Lands entitled "The Grassland Problem in Southern Rhodesia" in which he stated almost verbatim what Alvord had said in 1936 and had reiterated in his warning of 1943. After Dr. Davies' report became public, the programme for pasture improvement work in native reserves was accelerated, and most intelligent people in the country lost their tree conservation complex.

7. Native Industries Development. Post-war congestion and demands for machinery made impossible the immediate delivery of the turbine ordered in 1945. A shipment of steel wheels and axles arrived in 1946 and it was decided to fit light steel bodies to the ninety-five sets of wheels and axles on hand. The completed carts were distributed for exhibit and sale and orders taken for future delivery. Carts were sold at £25 each rather than the £90 asked by dealers in the trade. A further shipment of 250 sets of steel wheels and axles arrived at the Nyanyadzi cart factory and these were stored pending the installation of the turbine and wood-working machinery.

Meanwhile a trial experiment was made for the extraction of sunnhemp fibre. Four retting tanks were constructed at strategic points over the project and a trial shipment of two tons of fibre was sent to England. This proved so successful that in 1947 a battery of four Gundry decordicators were installed and run by belt drive from a counter shaft driven by a stationary tractor. A further large shipment of fibre was sent overseas but it became evident that this industry must wait for fibre mills to be established in Rhodesia before it could be a complete success.

During the year 1947 the turbine, sawmill and woodworking machinery arrived and were installed, and with a good supply of wheels and axles already on hand the departmental manufacture of carts for natives got under full sway by the end of the year. Since there was ample power on hand it was also decided to instal a grinding mill. This filled a long-felt need of the hundreds of families now located on the project by making it unnecessary to grind by hand or to send the maize and wheat to Umtali, 60 miles away, for grinding into meal and flour. By this time all Nyanyadzi people were bread eaters and wheat growing under irrigation was a major industry.

8. Accelerated Activities. With the building up of an adequate staff there was a remarkable increase in all activities of the Department of Native Agriculture. An exceptional increase occurred in the percentage of native farmers adopting better methods of tillage. With full-time land development officers on the job in each reserve, soil conservation work was accelerated, large acreages were being put down to exotic





tree plantations of gums and conifers. By the end of 1947 the African staff had increased to 405 and a programme was under way for building staff houses for African as well as European staff. A total of 71 three and four-roomed houses were erected during the 1947 dry season for African staff members, the work being done by community demonstrators and classes in building.

The big canal from the Devuli River, surveyed by Alvord in 1938, was completed in 1947 and plots were assigned to 92 native families. These people experienced a very trying first year in growing crops under irrigation because a herd of 74 elephants camped on the project for several weeks while an unsympathetic Native Commissioner refused to let the elephants be shot at to frighten them away.

The ex-servicemen completed their training at the four new schools of agriculture and on the first of October, 1947, large classes of ordinary farming students were enrolled at these centres. One serious setback to the work was the resignation of the senior agriculturist attached to the head office to go over to the Groundnut Scheme in Kenya in October 1947. This man had been understudying Alvord for the post of Director of Native Agriculture upon Alvord's retirement, due in 1948.

9. Native Production and Marketing Council. By this time the Standing Committee on Agricultural Development and Production, established in 1946 had performed its function of investigating and making recommendations. It was apparent that something with higher status and more power was required for success. Upon the recommendation of this Committee it was decided toward the end of 1947 to set up a "Native Production and Marketing Council", whose primary duty would be to advise the Minister of Native Affairs on all problems concerned with native production and marketing. The members of this Council were the Secretary for Native Affairs (Chairman), Assistant Chief Native Commissioner (Deputy Chairman), the Director of Native Agriculture, the nominee of the Minister of Agriculture and Lands (Dr. S. M. Makings, Senior Agricultural Economist), and the following members of the public, chosen for their knowledge of Native affairs, problems of conservation, agricultural production and marketing: Mr. H. H. D. Simmonds, C. M. G., the Hon. H. V. Gibbs, Mr. C. D. Robertson, C. B. E., Mr. A. M. Tredgold, the Rev. H. Carter, Mr. J. S. Brown, Mr. L. T. Tracey, M. C., and Mr. D. T. Koch.

This council was to hold four meetings yearly. During the first year of service the council discussed and made recommendations upon native maize prices, control of small grains, native reserve land utilization and good husbandry bill, native livestock industry, groundnut levy, coordination of prices and marketing arrangements for maize, native development fund bill, agricultural staff requirements and recruitment.

10. A Broken Back. On Saturday afternoon, November 6, 1947, the Director of Native Agriculture was helping his eldest son lay asbestos-cement roofing on his new house when a sheet upon which he was sitting suddenly disintegrated and dropped him fifteen feet onto a concrete floor. The result was a compression fracture of the 11th and 12th dorsal and 1st lumbar vertebrae with a backward and downward displacement of the 1st lumbar in which his spinal cord was badly pinched. He was paralyzed from the waist down. He was rushed to hospital, his fractured spine set and he was put in a plaster of paris cast. The following Wednesday,



after X-ray pictures were taken, the doctor told Mrs. Alvord that there was no hope for him and that he would probably spend the rest of his life in a wheel-chair. Alvord said, "Nonsense. I know men who have forced themselves to get up and walk, and I shall do the same". Thereupon, he had his son Roy, who was an animal husbandry officer, and his senior land inspector, Mr. Lewis, both big men, come to the hospital twice daily to lift him out of bed and carry him up and down the ward, while he tried to walk, resting his arms over their shoulders.

11. Office Work under Difficulties. His senior agriculturist having resigned and left for the Groundnut Scheme in October, he had no one at head office to take over his work. He arranged for his Chief Clerk to come to the hospital daily with important correspondence and matters for decision. It was the most important and busiest time of the year, with annual reports to be handled and estimates to draft for the coming year, and with the senior agriculturist gone, there was no-one else who was familiar with all the various phases of the work.

Meanwhile, he kept trying to walk, but made little progress. He could not put one foot in front of the other. The pain of the effort was excruciating. But, at his insistence, his exercisers kept dragging him up and down the large 14-bed ward. Then on Sunday, November 23rd, while trying to walk, he collapsed. Upon examination the doctor found that he had lost so much weight that his cast had become so loose it did not support him at all. The injury to the spinal cord had affected his stomach and he had not been able to keep down any food for ten days, he had lost more than twenty pounds, mostly off the belt line. He rested until the Wednesday, when X-rays were taken and a new cast fitted. The X-ray pictures showed a straight spine but marked osteo-arthritic development. While the new cast was fitted, he had to bridge himself face down between two tables for fifteen minutes, and was returned to the ward in a collapsed condition.

12. The Power of Prayer. Meanwhile, word came in that Africans all over the country were praying for his recovery. On Thursday evening he decided he ought to try praying for himself. Could he afford to be confined to a wheel-chair for the rest of his life? He thought of the big job yet to be done. There was no-one else in the department who could take over his duties, and it would be at least a year before a good man could get hold of all the particulars of the work. So Thursday evening, he decided to pray and leave the matter entirely in the hands of God. Immediately after praying he fell soundly asleep, it was the first sound sleep he had had since the accident. He woke up about 3 o'clock in the morning. He still felt considerable pain, so prayed again then dropped off to sleep and did not wake until almost 8 o'clock, when he found his breakfast cold on the bedside table. He rolled over, ate the cold food with relish, then dropped off to sleep once more, not waking until after 11 a.m.

As he lay there thinking, and thanking God for the restful sleep, suddenly everything went quiet and peaceful. He thought it must have been raining and had now stopped. But the man in the next bed said, "No, the sun's been shining all the time". Then it dawned on him that all the pain was gone. He twisted inside of the cast and could not feel soreness or pain, he never felt them again. This was Friday, the 26th, just twenty days after the accident.





On Saturday morning he got out of bed unassisted and stood beside the bed. That afternoon he walked up and down the big ward between the two men, but carried all his weight upon his own feet. However, he could not balance to stand alone. On Monday morning he got out of bed and practised balancing. On Tuesday he walked with crutches, on Wednesday he walked with two sticks and on Thursday with just one stick. On the Sunday he walked out of the hospital unassisted and drove the car home himself, accompanied by his wife. This was just twenty-eight days after the accident. The doctor pronounced it a miracle. But an African demonstrator in Southern Mashonaland said, "He had to get well for Africans all over Rhodesia were praying for him".

13. Back on the Job. He convalesced at home until after Christmas then went back to the job at Head Office on full-time duty. The year 1948 was his busiest on the job. Since the retirement age for Civil Servants is 60, he was due to go on six months' leave pending retirement in September 1948. The Native Production and Marketing Council made two important recommendations concerning his retirement: 1. That he should be kept on the job for an additional year after reaching retirement age, and 2. That upon his retirement two men should replace him. His Senior Grade I post was to be filled by a Secretary for Native Economic Development in an administrative capacity; his duties would be to coordinate the work of administration, native agriculture, native Land Board, native engineering, native labour and native marketing. The post of Director of Native Agriculture was to be degraded to Senior Grade II.

They also recommended that every effort be made to obtain a man with considerable experience to understudy Alvord during his remaining time on the job, so that he could take over the work adequately when he left. In order to attract an older, more experienced man, the post of Senior Agriculturist was upgraded to that of Assistant Director. This post was advertised, and on June 1st, 1948, Mr. R. M. Davies, with twenty years of previous experience and service as an agriculturist in the Colonial Service, assumed duty. He took hold of the work expeditiously and efficiently from the start.

14. The Highest Honour. On June 10th, 1948, Alvord was surprised and, needless to say, delighted to learn that his name was on the King's Birthday Honours List, to be an Officer of the Most Excellent Order of the British Empire - Civil Division - an O.B.E.

The Annual staff conference, in August 1948, was held at Nyanyadzi, so that all might see the remarkable achievements in the arid Sabi Valley. Since 1945 the annual conferences had been held in different provinces by rotation. The entire African staff was now far too large to handle all together at one conference. Thus, the entire European staff, plus all the African supervisors and instructors attended every conference, while only the demonstrators of the host province attended. This meant that each demonstrator attended a conference one year in five. This was the only department of Government holding an annual staff conference. It is evident that these annual meetings had a lot to do with the outstanding success of the work.



15. Outstanding Achievements. During 1948 the land development officer, Rusapi district, encouraged by Alvord and backed by a progressive Native Commissioner, did excellent work in connection with roads, culverts and bridge construction, using granite stones quarried locally by natives in the reserves. He also induced all the people in a large area to plant all their lands under systematic crop rotations between the contour ridges in their arable clocks, and to erect stone cattle kraals throughout the area with adjacent compost pits for making crop residue into compost. He then introduced competitions for prizes among the African farmers of different areas, for the best progress in these developments.

The land development officer, Mazoe district, persuaded groups of farmers under headmen to protect their large blocks of arable lands with soil conservation works. He and his African staff surveyed and pegged the drainage strips and contour ridges and these people, working together, with home-made ridgers designed by Alvord, made from old railway sleepers and gum-poles and drawn by oxen, constructed the contour ridges and fully protected more than 11,000 acres of arable lands.

The cotton growers on Mondoro Reserve were increased from 108 in 1947 to 624 in 1948.

16. Important Visitors. Alvord spent most of September 1948 in showing the work of his Department to two important visitors from outside the Colony. W. V. Blewett, Director, Overseas Agricultural Research for Imperial Chemical Industries, and Tom Bell, Lecturer in Colonial Agriculture, Cambridge University. Mr. Belwett stated that he had been told on high authority that Rhodesia was doing very little in agricultural development of its indigenous people outside a few small areas which were window-dressed for the benefit of visitors. He wanted to see areas that no-one else had visited, so Alvord took him on a 250 mile journey that no other visitor had made. Belwett's remark at the trip's end was, "Well, if this is what they call window-dressing, all I can say is, it's a mighty big window".

Mr. Bell was taken on a trip similar to those made by Dr. Reisner and Dr. Tothill, years before. He commented, "I've now spent six weeks touring Kenya, Tanganyika, Northern Rhodesia and Nyasaland, where I saw all the problems. Here in Southern Rhodesia I have seen how those problems are solved".

17. International Conference on Soils. In November 1948 Alvord was one of three delegates sent by Southern Rhodesia to the International Conference of Soils of Africa, held at Goma on the northern end of Lake Kivu in the Belgian Congo. The keynote of this conference was 'How to Make Use of the Soils of Africa for greater production while maintaining soil productivity'.

Dr. Keen, Director, East African Research Organization, gave an address in which he stated without refutation that "there is no place for primitive agriculture in Africa to-day". He suggested that the only solution under the existing state of tribal or communal ownership of land vested in Chiefs, was group or communal occupation of large arable blocks, which would make possible increased productivity by improved tillage and mechanization. Mr. Clay, Agricultural Adviser to the Ministry for the Colonies, followed this address by proposing a motion that all Governments be urged to settle natives on large arable blocks in clans or groups of





families under headmen or chiefs, in order to make possible the introduction of cooperative large-scale mechanization as a substitute for all sorts of primitive agricultural methods, and thus increase production.

Later in the conference, Alvord gave an address on "The Development of Native Peasant Farming in Southern Rhodesia" in which he pointed out how native farmers throughout the country had been persuaded to put into practice schemes of systematic crop rotations using legumes and liberal applications of composted kraal manure and crop residue by which they had been able to build up and maintain soil fertility year after year. Many of these rotations had been running for more than twenty-five years, at the end of which the soil was twice as productive as virgin grasslands of the best kind; and there was every indication that it would continue to be so. He also informed the conference that Southern Rhodesia had started to settle natives on large arable blocks in clans or groups of families under headmen more than twenty years ago and that, by the end of 1948, the total area centralized into large arable blocks and communal grazing lands was more than 10,000,000 acres. Moreover, each native farmer had his own individual allocation of arable lands and with improved methods was obtaining from seven to ten times the yields obtained from ordinary primitive native methods.

18. Plans for Retirement. Alvord reached the retirement age of 60 years in March 1949, and should have left on the usual six months' leave pending retirement in September 1948. However, Mr. Davies, his understudy for the post of Director, had been on the job since only June 1948. Though Mr. Davies had grasped the work expeditiously and efficiently from the start, it was felt that he should have an additional year with Alvord in order to understand fully all the ramifications of the extensive work which had been developed since 1926. Alvord's presence was also required on the high-level native production and marketing council. During 1949 he gave full time to grooming Mr. Davies for the work and to meetings of the Production Council and to helping draft the proposed "Good Land Husbandry Bill". He also drafted a number of circulars and bulletins on various phases of the work and prepared a farewell speech for the 22nd Annual Staff Conference.

This conference was held in September and was planned to end the day before Alvord started his six months' leave pending retirement on March 25, 1950. At this time, his European staff numbered 70 and the African staff totalled 543. At this conference he received as a token of esteem from the entire staff of the Department of Native Affairs, two very expensive sets of travelling bags and suitcases for himself and his wife, who also attended the presentation. The Secretary for Native Affairs expressed the gratitude of the Department and of the Government for the long years of service rendered. Then two African chiefs expressed the thanks of their people for his work. One called him by his well-known name, Soro Chena (The White-headed one) and described him as a "man whose heart is whiter than his head". The other ended his remarks with the statement, "Cecil Rhodes founded a country, but Soro Chena has founded a people". This remark later became the title of an article published in The Readers' Digest issue for March (USA) and April (Overseas) 1951, on the work done by Alvord in Rhodesia.



20. Dr. Lowdermilk's Visit. The Alvords remained at their Salisbury home until March, 1950, when they began their six months' visit with friends and relatives in America. During October and November 1950 Dr. Walter C. Lowdermilk, former Assistant Director of the Soil Conservation Service of the United States, and a recognized world authority on soil erosion, soil and water conservation and flood control, made an extended visit to Rhodesia. He had visited the British Colonies and other African countries under the auspices of Agricultural Missions, Inc., of New York City. He spent six weeks in Rhodesia and was very impressed by the agricultural and rural development work for Africans. He was particularly intrigued by the "T" dams, a type of dam designed by Alvord in 1941, which seemed to work like a pump in reverse by catching and holding back the rainwater in vleis and sources of water courses, and putting it underground to raise the water table and restore water to springs, streams and wells. In his comments, he stated that no other country in Africa was doing anywhere near as effective work in the uplift and development of the African as was the Government of Southern Rhodesia.

21. Retirement. The retirement business over, Alvord's first act was to take his wife to see the Victoria Falls. They had been in Rhodesia for thirty-one years, yet somehow had never found time to visit the famed tourist attraction. After six months in America, picking up fresh ideas for transplantation to Rhodesia, he returned to Rhodesia under the American Board Mission to serve out the lifetime originally pledged as an agricultural missionary. At Chikore Mission he established a large school of agriculture where he could train African young men for jobs with the Government as demonstrators and as agricultural teachers in schools.

In 1955 he transferred his family and the students to Waddilove Training Institute under the British Methodist Mission Society, near Marandellas, which was more central to the country and far better suited to the task of agricultural training than the remote area near Mount Silinda. There he is still on the job, working as hard as ever in the agricultural development of the indigenous Africans, preaching the Gospel of the Plough.





## SUMMARY

Here follows a brief summary of the various phases of the work accomplished under the direction of Alvord in Southern Rhodesia.

1. Agricultural Education. Begun by Alvord in 1920 at Mount Silinda Mission with a four-year course in agriculture. Today, agricultural instruction is being given in all schools for Africans throughout the country to approximately 200,000 pupils. The Native Education Department operates two Industrial Training schools in which a four-year post-Standard VI course in agriculture is given, and also gives financial support to the Agricultural course under Alvord's direction at Waddilove Mission. More such schools will be opened shortly.

The Department of African Agriculture has four provincial schools of agriculture where native men, regardless of previous schoolings, can take a practical two-year course in farming. The agricultural education of the masses is furthered by annual before harvest shows and meetings which have a total attendance yearly of more than 100,000 people. Approximately the same number attend the annual agricultural schools, while many short courses in farming are held yearly for African farm owners.

2. Agricultural Demonstration Work. Started by Alvord at Mount Silinda Mission in 1921 and for Government, under his direction, in 1926. During the twenty-four year period until his retirement a total of 84,251 demonstration plots were planted by African farmers under the supervision of demonstrators, on a total of 64,230 acres, from which the total yield was 587,888 bags of grain of 200 lbs each, averaging 9.15 bags per acre as compared with an average yield of 1.3 bags per acre on lands tilled by primitive methods adjacent to demonstration plots. By 1950 there were 1,665 master farmers, 37,591 cooperators who were practicing crop rotation etc., and 55,694 followers who were trying to use some of the improved methods taught by the demonstrators. At this time also, it was estimated that 38.75 percent of all African farmers throughout the country were influenced by the Agricultural Demonstrators.

3. Irrigation Development. This really began with the dream Alvord had in 1926 while travelling through the arid Sabi Valley on his way to Salisbury to assume duty with the Government. In 1928 he made the first survey of the Mutema Canal. The first irrigated crops were harvested in January 1932. By 1950, when Alvord retired, a grand total of 27,296 acres had been planted to crops under irrigation from which the total yield was 156,256 bags of grain, or an average yield of just under six bags per acre for all crops, in an area where no crops could previously be grown except in about one year out of seven when rainfall might be sufficient for a scanty crop. People not familiar with the Sabi Valley cannot visualize what this irrigation development has meant. For example, at Nyanyadzi, in 1934, there were only seven families, precariously tilling floodlands alongside the river. Today there are more than 300 families and in 1950 a total of more than 10,000 bags of grain was harvested on the Nyanyadzi irrigation project. There is still room for more extensive irrigation development in the Sabi Valley where it is estimated that more than 200,000 acres could easily be irrigated if development work to hold back and store up water in the catchment area up-country is carried out.





4. Centralization on Reserves. This was started by Alvord on Selukwe Reserve in 1929, the primary aim being to centralize arable lands into large blocks for clans or groups of families under headmen, allocate a proper portion for tillage to each family and to demarcate large areas of communal grazing lands for each group. From 1929 to 1935 Alvord worked all alone on this job during the long six-month dry season, then in 1935 two land inspectors were assigned to full-time work in centralization surveys and these were increased to a total of six by 1940. In 1947 land development officers began also to participate in this work and today approximately 15 million acres have been centralized.

5. Soil Survey Work. Along with the centralization of arable and grazing lands, the soils in each area dealt with were mapped and classified into types according to origin, types, vegetation and use. This work was started by Alvord who instructed his land inspectors in soil-survey technique. Large-scale maps were drawn of every Reserve at the completion of each survey showing the boundaries for the centralized arable and grazing areas and soil types.

6. Community Demonstration Work. Begun by Alvord in Selukwe Reserve in 1933 when the first African community demonstrator was appointed. This was a natural development following centralization and the location and development of model rural villages on the boundary lines between arable and communal grazing areas. In connection with this work the staff of community demonstrators had increased to 79 by 1950 and these men, during a seventeen-year period, laid out a total of 1,540 villages, supervised and advised in the erection of 141,065 one-roomed and 22,441 more than one-roomed improved houses, 1,712 school houses and churches, 89,465 improved grain huts, 4,611 improved water supplies, 11,853 sanitary pits, 100,362 compost heaps and pits and helped in the establishment of 1,238 tree plantations. They also assisted and advised in home and village beautification, such as tree planting along streets, front yard gardens, etc., and helped to lay out 242 agricultural show grounds and sports grounds along with other various sorts of community improving enterprises.

7. Experiment Station Work. Started by Alvord in 1934 when an experimental farm was started at Marirangwe. This was later transferred to Msengezi. When Alvord retired there were four progressive experimental farms, one each in the high, medium and low rainfall belts and one at Nyanyadzi for irrigation in the arid Sabi Valley. The object was to breed and improve all sorts of crops to be grown by Africans and to produce improved seeds for distribution to African farmers. This work played an important part in the agricultural development programme.

8. Soil Conservation Work. Started by Alvord on Reserves as early as 1932 when demonstrators made storm drains and contour ridges in demonstration plots. The official start was made in 1936 when the first European soil conservation officer was appointed for work in native reserves. By 1941 there were five full-time soil conservation officers at work. Then later, all land development officers were made ipso-facto soil conservation officers. When Alvord retired in 1950 more than one million acres of arable lands in native areas and reserves had been protected by soil conservation works and a very large number of small and large dams had been built for water conservation.





9. Cotton Growing. Although abortive attempts had previously been made by Native Commissioners to get the Africans to grow cotton, the first properly supervised beginning was made by Alvord in 1934 when eleven plot-holders were persuaded to grow cotton under the supervision of demonstrators in their crop rotations. From then on it was a slow and uphill battle. Cotton could not be eaten. There was an extraordinary impetus in 1947, largely due to the efforts of individual land development officers. For example, on Mondoro Reserves the number of cotton growers increased from 108 in 1947 to more than 3,000 in 1950 and, throughout the country, the yields increased from 75,500 lbs. in 1947 to 4,643,000 lbs. in 1950, by which time cotton was being grown in crop rotations in some 32 reserves.

10. Improvement of Native Livestock. Livestock improvement was an important part of the work of demonstrators from the beginning of 1927. Demonstrators assisted native stock owners with the treatment of veterinary cases and in the castration of surplus bulls or scrub stock. By 1950 more than 500,000 livestock cases had been treated by demonstrators. The first livestock breeding station was established by Alvord at Mengezi in 1941; then one at Makaholi the following year, and by 1946 a total of six had been established. This number was increased to eight by 1950. The object was to improve and develop breeds of the hardy, disease-resistant indigenous cattle known as Sanga as distinct from the less hardy, exotic European breeds. This work has proven highly successful.

Pasture and grazing surveys were started in 1943 with a view to knowing the position on every reserve throughout the country. An extensive livestock census was carried out annually thereafter so that the livestock position was known and shown. This simplified the problem greatly when it finally became necessary to carry out extensive destocking measures in some reserves. By this time the confidence of the African cattle owners had been won to such an extent that they realized that destocking was necessary for their own good and for the good of the country.

11. Forestry Demonstration Work. Although the first demonstrators were instructed to try to persuade groups of people to establish gum tree plantations in the areas where timber was scarce, and some were very successful, the first definite programme for forestry demonstration work was introduced with the appointment of community demonstrators. During the growing season when conditions were too wet for the building programme their primary duty was to persuade the occupants of the newly established model rural villages to plant communal tree plantations along the village lines. In 1940 the first forestry demonstrators, as such, were appointed and by 1950 they numbered 30. These men assisted and advised in the establishment of individual and community tree plantations throughout the Reserves where tree-growing was required. By 1950 a total of 1,238 tree plantations had been established, gum tree and conifer species, exotic to this country.

12. The Good Land Husbandry Act. In one of his earliest annual reports Alvord called attention to the fact that one of the greatest drawbacks to agricultural development was the prevailing system of tribal ownership of the land with rights of ownership vested in the chiefs. Without individual ownership it was very difficult to get any farmers interested in permanent improvement of home or of the soil he was tilling.



The introduction of centralization of arable land into large blocks and the allocation of demarcated lands to individuals for tillage, relieved the situation, but the deterring element remained.

When the standing committee on agricultural development and production was appointed in 1946, Alvord was able to put over his views on the detrimental effect of tribal ownership of the land. This Committee served for a period of two years, making many recommendations, few of which were carried out. Toward the end of 1947 it became evident that something with higher status and more power was required, and this Committee gave way to the Native Production and Development Council. The most important contribution of this Council was the drafting of what was then termed the "Native Reserves Land Utilization and Good Husbandry Bill" in which Alvord assisted. The ramifications of this Bill and its contents may be seen from a printed copy of the Bill itself. The Bill later became an Act, and is proving to be the most revolutionary legislation ever re-enacted in any country and is destined to have a great and beneficial effect on the economic, social and agricultural development of the African people.

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The first part of the paper is devoted to a general discussion of the problem of the origin of life. It is shown that the problem is not only a scientific one, but also a philosophical one. The scientific aspect of the problem is concerned with the question of how life arose from non-life. The philosophical aspect is concerned with the question of whether life is a necessary part of the universe or whether it is a mere accident. The author argues that the scientific aspect of the problem is more important than the philosophical aspect. He shows that the scientific aspect of the problem is a very difficult one to solve. He shows that the philosophical aspect of the problem is a very easy one to solve. He concludes that the scientific aspect of the problem is the one that should be studied.



